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An Address.

SOME PHASES OF MEDICAL PRACTICE IN THE TWENTIETH CENTURY.

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President of the Victorian Branch of the British Medical Association.

WHEN one comes to consider the subject for a presidential address it almost seems that every avenue of discussion has been explored. It is possible only to advocate doctrines already expounded or to reinforce statements made by more eminent members of our profession. By chance, my interest

in medicine began with this century. I have therefore made a review, more or less incomplete, of the apparent progress since 1900.

We have lived in a troublous time, and yet in one that has been full of interest. The years can be divided into two almost equal lots, and between them is the gap filled by the four years of war. Sufficient time has now passed to enable us to say that the post-war differs largely from the pre-war life. As this is a medical address to a medical audience, I shall limit myself entirely to diseases, demonstrating some of the variations in prevalence and the modes of attack in these periods.

During the War surgeons made great adaptations to the special conditions; preventive inoculations against bowel infections and tetanus were carried out on a large scale; but these were well known and had been applied to small groups during the days of peace. Christopherson treated bilharziasis in 1918 with intravenous injections of tartar emetic,

¹ Read at the annual general meeting of the Victorian Branch of the British Medical Association on December 2, 1936.

but it had been used intravenously for several other infestations. The use of quinine for malaria by intramuscular injection developed during the War, but Rogers had used emetine for amoebic dysentery in 1913. Rogers also improved the treatment of leprosy by using the chaulmoogrates in 1915, but this obviously had no relationship to war-like operations. Though the War did have an influence on medical progress, it was not so much by the discovery of new methods of treatment.

From the grouping of larger numbers of diseases and injuries of a like kind, specialism developed rapidly. One of the great differences between post-war and pre-war medicine is this continued increase in specialism, with its consequent change in the organization of the profession. War mobilizes bacteria and one cannot dissociate the pandemic outbreak of influenza in 1918 and 1919 from the movements of the troops, yet the spread might have been brought about by normal travel.

From time to time new diseases developed or were introduced, and a few of these can just be mentioned. Trench fever was common amongst the soldiers, but, in its acute phase at all events, it disappeared entirely with the armistice; and yet it was a definite entity that caused a lot of invaliding. Many bilharziasis, malaria and amoebic dysentery patients returned here still harbouring the infecting agent. These infections were not spread, mainly, in the case of the first two diseases, because of the lack of the intermediate host. Dysentery still is limited, with very few exceptions, to the bacillary type amongst the very young or the aged and infirm, but in no greater prevalence than in pre-war days. *Encephalitis lethargica* gave great anxiety in 1921, and perhaps even at other times cases occur that are not recognized, for there appears to be a small increase in the Parkinsonian sequelæ. Psittacosis in humans has been proved in one small outbreak this last year; whilst infections of undulant fever are probably not increasing in number, but are now more easily recognized by better laboratory investigations. The law relating to vaccination was repealed in 1931, and there is now no vaccination against smallpox, compulsory or voluntary, unless amongst intending travellers. This State is dependent entirely on the efficiency of the Federal quarantine control.

Infectious Diseases.

Passing on to the more common infections, I have selected a few mortality tables from the Victorian Year Book, 1934-1935. Table I shows the deaths in Melbourne from certain infectious diseases.

These figures would seem to indicate that very definite cures have been discovered for these diseases, yet there is no specific remedy except for diphtheria. In all the others it is obvious that important adjuvants to the healing process must exist. Not only have improvements in sanitary conditions, general hygiene and standard of living borne fruit, but much credit can also be given to the medical profession, both to those engaged in

TABLE I.

Cause of Death.	Average Annual Deaths per 1,000,000 of Population.		
	1892-1901.	1925-1934.	Decrease in 1925-1934.
Pulmonary tuberculosis	1,654	561	1,093
Other tuberculous diseases	446	96	350
Typhoid fever	293	9	284
Scarlet fever	33	13	20
Measles	215	16	199
Diphtheria	196	62	134
Total	2,837	757	2,080

the treatment of diseases and to those supervising the preventive aspect as whole-time or part-time public health administrators. This is particularly true of tuberculosis, in which the lessened prevalence and also increased chances of cure are most dramatic. Here the empirical drug treatment of the last century has largely given way to fresh air, diet, graduated exercise and rest. The local rest of the diseased tissue has gone into the realm of surgery; collapse therapy for pulmonary tuberculosis has come to stay.

A director of tuberculosis was appointed in Victoria in 1928. With the establishment of bureaux and an increased staff, public health administration has become sufficiently developed to obtain the necessary approach to the family of the patient. By tuberculin testings and radiological examinations of contacts, first infections in childhood and reinfections or the adult type occurring after fourteen years of age have been detected in the absence of any impairment of health. Good as has been the reduction in the mortality rate, yet apathy still remains regarding this preventable disease, in which the predominant rôle of exogenous infection is proved, and which still kills 890 persons in this State every year.

The incidence of diphtheria in Greater Melbourne, 1900 to 1934, with mortality rate, is shown in Table II.

TABLE II.
Diphtheria in Greater Melbourne, 1900 to 1934.

Period.	Annual Cases Reported.		Annual Deaths.		Deaths per 100 Cases Reported.
	Number.	Per 100,000 of Population.	Number.	Per 100,000 of Population.	
1900-1904	686	136.9	58	11.6	8.5
1905-1909	758	140.8	46	8.5	6.1
1910-1914	2,343	374.3	114	18.3	4.9
1915-1919	2,864	402.6	127	17.9	4.4
1920-1924	2,555	314.6	78	9.7	3.1
1925-1929	1,843	191.1	52	5.4	2.8
1930-1934	3,151	315.9	68	6.8	2.1

The curative treatment of the actual case appears to have very definitely improved (see the final column in Table II). What can be said, however, about the great increase in the prevalence? More perhaps is known about the aetiology, the diagnosis

and the prophylaxis of diphtheria than of any other infectious disease. Some other factors are obviously failing or lacking. The one-time generally accepted preventive measures—notification, isolation, disinfection—have proved inadequate. The duty of the profession is therefore clear, namely, to support and extend in every way all that can be done by the use of new immunizing substances. No uniform procedure is laid down as yet, but anatoxin prepared by the Commonwealth Serum Laboratory is superseding toxin-antitoxin mixture; and in no case is the preliminary injecting of diluted anatoxin—the Moloney test—omitted. Much has been done by the medical officers of health, both central and local, but they do not get into touch with the preschool children or with those who have left school. To secure a wider use of immunization, I strongly commend it to the practising doctor, particularly the general practitioner. A recommendation has recently gone from the Commission of Public Health to the Minister that the supply of anatoxin and of toxin-antitoxin be made free to the private doctor and to the medical officer of health, just as calf lymph vaccine was formerly.

TABLE III.
Infantile Mortality in Victoria, 1900 to 1934.

Period.	Deaths under One Year per 1,000 Births.
1900-1904	98.2
1905-1909	81.2
1910-1914	73.8
1915-1919	66.1
1920-1924	65.3
1925-1929	54.4
1930-1934	43.9

Infantile Mortality.

No review of medical progress can be made without at least a passing reference to infantile deaths. The reduction in the death rate as seen by the table is most creditable to the medical profession, and not, as many people believe, to the post-war multiplication of baby welfare centres. The greatest reductions were in diarrhoeal diseases, malnutrition and wasting, and infectious diseases. There is still room for improvement in lessening the deaths from respiratory diseases and prematurity. Table III is reproduced from the Victorian Year Book and shows the infantile mortality from 1900 to 1934.

Venereal Disease.

In discussing the prevalence of venereal diseases one must admit that errors exist in their notification, but the margin of error does not vary much from year to year. It is fairly safe, therefore, to accept the comparative value of the figures in the table, if not their absolute accuracy. The great lessening in the number of infections is obvious (see Table IV). Does this mean there is a higher moral level in the community? One doubts that. Two explanations are possible, and both of them are to the credit of the medical profession. The first

is that the diseases are better treated and that the patient is rendered non-infective earlier, and the second is that prophylaxis is effective. The influence of war is most definitely shown in the changed medical and lay attitude to prophylaxis. Efficient treatment in rendering the patients non-infective is seen more in infections with the *Spirocheta pallida* than with the gonococcus. The importance of the lessening of the incidence of syphilis is all the greater when one considers its late results on the nervous and vascular systems. In fact, already it is only with difficulty that in any large hospital a case of aneurysm can be found for clinical demonstration purposes.

TABLE IV.
Venereal Diseases, Victoria: Average Annual Notified Infections.

Period.	Gonorrhœa.	Soft Sore.	Syphilis.	Congenital Syphilis.
1917-1923 ..	4,653	219	1,861	107
1924-1928 ..	4,304	90	961	55
1929-1934 ..	3,715	55	654	7
1935-1936 ..	2,841	3	376	3

Diabetes.

Passing away from the infections, the increasing death rate from diabetes must excite comment. Insulin has been increasingly used in therapy since the last period but one, and it is common knowledge that lives have been saved directly by its action. It is a matter for debate, therefore, whether the small but steady apparent increase is a real one, or is explainable by a more accurate recording of both the actual and the predisposing cause of death, as well as by the ageing of the population; that is, whether the statistician has made the increase. It is interesting to note that in 1932-1934 the rate for females was 66% higher than that for males (see Table V).

TABLE V.
Death Rates from Diabetes.

Period.	Average Annual Deaths from Diabetes per 10,000.	
	Males.	Females.
1900-1902	0.56	0.60
1910-1912	1.00	1.26
1920-1922	1.03	1.45
1932-1934	1.25	2.08

Motor Accidents.

The control of accidents resulting from motor vehicles does not rest with the profession, but the injured persons therefrom are crowding the surgical wards of the public hospitals. The treatment of such patients more or less under the cloak of charity is one of the evils that must be corrected without delay. The figures show a new phase of surgical activity, and as the numbers are rapidly increasing (see Table VI) no apology is necessary for drawing attention to them.

TABLE VI.

Motor Vehicle Accidents in Victoria. Number of Persons Killed or Injured, 1931 to 1935.

	Killed.	Injured.
1931	272	3,675
1932	254	3,706
1933	240	4,679
1934	275	6,306
1935 ¹	319	6,249

¹ The total number of motor traffic accidents in 1935 was: Metropolitan, 14,587; remainder of State, 8,068; total, 17,655.

Maternal Mortality.

Maternal mortality rates influence general mortality figures but slightly; still reference must be made to them, if only out of respect to our new President. In addition, deaths in the puerperium nowadays rightly hold a prominent place in the professional mind and amongst the lay public, for the death of a mother in child-birth ranks amongst the tragedies of this world. There is room for improvement, but much work will have to be done before even a little improvement is manifest. In fact, in the case of infection one wonders whether it is not safer for a mother to be confined in a private house than in a hospital. This can be only an opinion, for it is to be admitted that difficult labours with added risks are usually treated in hospital. The mortality figures are too well known to be recapitulated here. As our rates do not compare favourably with those in other countries, again, as in the case of diabetes, it is probable that the statisticians are over-zealous in this country in attributing to child-birth deaths that in other countries are placed in the disease group embracing the final cause of the illness.

Heart Disease, Nephritis, Pneumonia and Cancer.

Then there are the large groups of deaths from heart disease, nephritis, pneumonia and cancer that show no evidence of diminution. Admittedly, as all of us must die, we ultimately must die of some degeneration if we have a natural ending. That end is steadily being postponed, and though the figures in the four large groups just mentioned seem to be almost disparaging to the efforts of preventive medicine and surgery, still the fact that the final illness is postponed is on the credit side.

Cancer deaths present too wide a field of discussion. Seeing, however, that the mortality figures quoted are steadily increasing, it is wise to keep an open mind in view of the ageing of the population. A careful analysis of cancer deaths in age groups seems to show that the altered age structure of the population explains the increase in the general rate of mortality from cancer. One feels assured that the profession has not failed, as the figures would seem to indicate, but that greater progress has been made of recent years in the early diagnosis and in the radiological and surgical cures than was attained earlier in this century.

Diseases Ending Life Indirectly.

Passing now to the prevalence of diseases that only indirectly end life, there are now definitely fewer cases of acute rheumatism and chorea; whether this is due to the greater number of tonsillectomies of recent years, and to the more complete performance of the operation, does not matter. The disappearance of gout must be the outstanding example of the benefits of healthy eating and drinking. How much credit for its almost complete eradication from the ranks of the well-to-do can be given to the teachings of the physicians, or how much to the natural good sense of the community in avoiding excess, it is impossible to estimate. Still, even the improved good sense of the community doubtless had its origin in the advice of the medical profession to their lucrative sources of income. Anyone who has read "Round about Harley Street" must be astounded at the loss to our incomes today by the passing of this aristocratic disease of the last century. There are still cases in this community of malnutrition and other metabolic diseases, but not to any extent. Chlorosis, the anaemia of constipated girls of the early years of this century, has disappeared from the healthy, sport-loving girls of today.

Other Influences and General Considerations.

There are influences at work on the human mechanism that are beyond the control of the profession. I allude to the crowding in big cities, the bustle and hurry, the pace of travel. Our big cities have made economic difficulties, political and religious difficulties also, but they do not seem to have had a great effect so far on medical problems. There are possibilities of harm in the crowded factory, the artificially lighted office, and the bargain basement and store. It is our duty to watch in these developments and to guide if possible. In the cities there is certainly the advantage of the greater control of public health. Industrial hygiene is steadily gaining ground and the industrial hazards are quickly safeguarded.

The human body shows great adaptability to altered conditions of life, and I do not find the great increase in neuroses that had been predicted by what is called the hurried pace of living. The child who is carried at sixty miles an hour in the motor car surveys only the local environment, just as did the child that was reared in the perambulator on the back lawn. Bustle and hurry have not yet proved to affect the nervous system; night life may, the War did, and, I believe, restriction of families will. Would that it were possible to restrict the breeding from the subnormal, for therein lies the source of many of the economic and social difficulties.

In the domain of therapeutics this century has seen many and great advances. Science builds steadily on the foundations and traditions that are of proved worth. The precise mechanism by which the thyroid elaborates its characteristic secretion and discharges it into the circulation has been

puzzling to physiologists and pathologists alike, and even now complete agreement has not been reached. As clinicians, however, we have proved the value of and use the gland in treatment; whereas with a great number of the proprietary preparations the practising doctor does not know the active principle or is unable to grasp the chemical constitution. Reliance is placed on the reports of trained chemists, who, in addition, inform us as to the physiological and therapeutic actions. This is not as it should be; but I do not see a way out. Difficult as it always is for a practising doctor to keep abreast of latest developments, it is made more difficult when the various wholesale manufacturers of medicines vie with each other in putting the same or similar preparations in different forms and under different names. We must not merely follow a fashion or accept the manufacturers' statements as to the value and use of such preparations. This century has seen the discarding with advantage of a number of useless remedies from the natural vegetable kingdom and the adoption of a larger number of synthetic substances. Some of these are of enormous help in treatment, others are of doubtful and unproved value, whilst we can all call to mind innumerable remedies much vaunted for a time and then discarded.

The important branch of surgery cannot receive the attention it deserves. Greater progress appears to have been made in surgery than in medicine. In fact the technique of surgery is of such a high standard that one almost wonders whether the improvements in the future will not be more directed to the obviating of the need for operative surgery at all. These improvements will then surely come within the province of medicine. I cite peptic ulcer as an example of what I mean. Originally a complaint treated medically, it tended to come into the domain of surgery, and now, but for the cases exhibiting special characters, the common ulcer is regarded as a medical complaint. The treatment of Graves's disease is now essentially surgical, and the medical care is to prepare the patient for the operation.

The surgeons have formed an association worthy of the name of the Royal Australasian College, and the college is doing much to improve the practice of surgery. A great honour was done Melbourne when the college buildings were erected on a most prominent site given by the State Government. Perhaps before long a more suitable home for the Victorian Branch of the British Medical Association will be built. Though this present building is a product of the post-war period, the Association with the varied organizations connected with it now demands greater office accommodation, whilst more commodious premises would permit of closer social relations between the members. At the present time also the Association of Physicians is discussing preliminary steps towards the formation of an Australasian college. This, too, must meet with the approval of the whole profession.

It is a matter for regret that a number of organizations uniting various groups of practitioners should have been formed without the portals of the British Medical Association. Perhaps the fact that so many are already formed will, after all, be a strengthening of the parent Association, for in all matters affecting the profession in general the lesser organizations will be helped if the British Medical Association acts on their behalf. Twice at least during my year of office a small group did make such a request with undoubted added benefit to itself. To be able to lead, the profession must speak with an undivided voice, and that can be done only through a strong, united British Medical Association.

Time permits me just to ponder for one moment what modern medical practice would be without bacteriology, radiology with all its diagnostic and therapeutic uses, radium, the diathermy knife, the use of opaque meals, the visualization of the gall-bladder and the urinary tracts by radio-opaque dyes, lipiodol, the electrocardiograph, and all the progress in physiology and pathology, along with the research institutes at the large public hospitals. All such, as applied to clinical medicine, are the products of this century. In no similar period has such progress taken place.

Conclusion.

To sum up, we can marvel at the progress in medical statistics, whilst the continued alterations in medical practice keep us ever watchful, for it is obvious that greater changes are still ahead of this generation. The credit for many of the improvements can be given to the medical profession. Many others have come about as part of general human progress. It is somewhat doubtful, too, whether all change is in the right direction. In this hygienic age, when we cannot pick up a paper without reading about vitamins, and when half the people one meets at luncheon or dinner are on a diet, it is obvious that the well-meaning efforts of medical practitioners are sometimes misconstrued. Why, fifty years ago, did certain men and women live so long, when the word hygiene was unknown to them? We know that the infant mortality was appalling. We know that those who survived childhood lived on under conditions so insanitary that the world revolted. Why did they live? Why do so many of us, safeguarded from the cradle—nowadays considered scientifically before we reach that cradle—die prematurely?

To answer the questions one would be omniscient. Still this century has already solved some problems. Whatever the future of the profession is to be, I feel convinced that if members continue to do more for the community than merely make a living, then we need not fear what form medical practice takes, whether it be under some form of national insurance or whether it continues as heretofore.

SCOPE AND ACTIVITIES OF THE COMMONWEALTH
X-RAY AND RADIUM LABORATORY, UNIVERSITY
OF MELBOURNE.

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THE Commonwealth X-Ray and Radium Laboratory has been established by the Commonwealth Department of Health in conjunction with the Council of the University of Melbourne to serve as a national laboratory in radiological physics and to assist the radiotherapeutic institutions throughout Australia. Although radiotherapists have been informed from time to time through the Australian cancer conferences of many of the activities of the laboratory, it has been thought that an account of its establishment and of the general scope of its work would be of general interest to medical readers.

Radiant energy in various forms is being used increasingly in the treatment of human ailments. Sunlight and ultra-violet light are of value in the treatment of tuberculosis and certain other diseases, while radiations of wave-lengths similar to those used in wireless transmission are used for the treatment of certain inflammatory conditions. X rays and the γ rays from radium are being employed with increasing success in the treatment of cancer.

In the case of cancer, certain cells with abnormal characteristics appear in the human body. Should these cells not be removed or destroyed they will increase enormously in number to form tumours which may appear in various parts of the body and ultimately lead to death. The elimination or destruction of these cells can be carried out by various means, the chief of which are complete removal by surgery, destruction *in situ* by the application of radiation from sources such as radium and X ray tubes, or by a combination of surgery and radiation.

In using radiation to destroy cancer cells in the body, it must be remembered that these lie amongst and are surrounded by healthy cells. The cancer cells, though differing in important respects, nevertheless resemble normal body cells in many of their characteristics. The radiation which will destroy cancer cells, will also destroy or seriously damage healthy cells. If the radiation is misapplied or unskillfully applied, it may fail to destroy the cancer cells, or it may do irreparable damage to the normal cells. Fortunately the malignant cells are, generally speaking, more sensitive to radiation than normal cells. It is this characteristic which permits the destruction of malignant cells, even though they are distributed throughout healthy tissue. Some

damage to the latter must necessarily occur; but, provided this can be reduced to a minimum, the tumour can be destroyed and the recovery of the patient assured. The objective to be aimed at, therefore, is to apply radiation treatment in such a way that a sufficient dose is given to destroy all the malignant cells without seriously damaging the normal tissues. This is an exceedingly difficult matter. It will be readily understood that in using a remedy so potent for harm as well as for good, the strictest care is necessary in providing for the utmost scientific accuracy in the determination of the quality of the rays which are being used for treatment and in measuring the dose applied. Further, the application of a maximum dose of radiation to the cancer cells, while ensuring that the surrounding healthy tissues are not destroyed or seriously damaged, involves physical problems of considerable complexity.

The use of X rays and radium, besides being a difficult specialty of medical practice, introduces many general problems. Machines to produce X rays of a type suitable for therapy require the application of hundreds of thousands of volts and cost thousands of pounds. The housing of this equipment under conditions which safeguard the patients and the hospital personnel from harmful exposure, is also a matter requiring much consideration and financial outlay. Radium, which is a naturally occurring element, is even more costly. The high cost of treatment by X rays and radium has usually resulted in the concentration of radiotherapeutic departments in a few specially selected hospitals, in which also facilities for following up patients after treatment are made available. In many cases the establishment of radiotherapeutic departments has been made possible only by a definite financial subsidy, either from government grant or public appeal funds.

By 1927 an encouraging measure of success had been achieved in England, France and America in the actual treatment of certain cancer cases with radium, but knowledge was at that time very incomplete. When growing experience showed that in radium a remedy had been found of real value in treating certain forms of cancer, Australians naturally desired to have the benefit of the treatment. It could not be tolerated that this means of treatment should be available only to those Australians with money and leisure sufficient to enable them to go abroad for treatment, and even in those cases only after considerable and perhaps fatal delay. Nevertheless, radium was so expensive that it was beyond the power of medical men or hospitals in Australia to purchase sufficient supplies and provide necessary equipment. Consequently, on the recommendation of the Director-General of Health, the Commonwealth Government decided in 1928 to purchase ten grammes of radium at a cost of rather more than £100,000 and to distribute this radium throughout Australia. In purchasing and distributing this radium, the Commonwealth Government shouldered a heavy responsibility. The Com-

monwealth Department of Health, as custodians of the radium on behalf of the people of Australia, had not only to ensure that it would be used with the maximum of efficiency, but that it would be used only by medical men with experience of its action, and that every precaution would be taken to prevent damage either to patients or to the staff handling the radium. Treatment centres were established in the several capital cities and also in a few extrametropolitan cities, where the necessary equipment and staff were provided, and supplies of radium were made available to these centres. But this was not all; the radium had to be cared for and maintained in the most efficient condition. With growing experience it was possible that different methods of mounting would be required. Knowledge was incomplete, and many problems, including, for example, those of the measurement of dosage and of the distribution of radium within the tumours in order to obtain a uniform and satisfactory field of radiation had to be solved. Protection sufficient to prevent damage not only to patients, but also to medical men and nursing staffs, had to be provided. These were problems beyond the possibility of solution by the medical men engaged in the actual treatment of the patients, and required the highest powers of research physicists specially trained in this particular branch of physics. It became necessary, therefore, to provide facilities for physical research and investigation if radium therapy were to be used with the highest degree of safety and success, and so in 1929 the Commonwealth Department of Health, by arrangement with the Council of the University of Melbourne, set up a radium laboratory within the university. The Commonwealth Department of Health equipped and maintained the laboratory, which had a staff of one physicist (Mr. A. H. Turner, M.Sc.) and one technical assistant, and the services of Professor T. H. Laby, F.R.S., as adviser, were obtained.

The work of the laboratory has been extended to cover a wide range of activities. The laboratory acts as the central radium bank, from which issues of radium are made to various hospitals throughout Australia, and to which radium no longer required in any particular type of mounting is returned.

The laboratory staff has carried out the repairs necessary to radium containers damaged in use throughout Australia. As a result of experience it was found that some of the radium was mounted in containers of insufficient screenage; in some cases radium was sent abroad for remounting, but much of the work of increasing the screenage of a large number of needles and tubes is being carried out gradually at the laboratory.

The handling of considerable quantities of radium requires very special care, as prolonged exposure to the γ rays is very injurious to health. Lead to the value of several hundreds of pounds has been used in the laboratory in providing satisfactory protection of the personnel during the various operations of handling radium and radon. The members of the staff are subjected to periodical blood examinations,

and photographic films are also worn to determine quantitatively the exposure received by each worker. Because of the dangerous nature of the work, the staff is appointed under special regulations regarding hours of duty and of holidays.

The information which has been gained in the laboratory on the subject of protective measures has been of considerable value in advising radiotherapeutic institutions regarding the protection which should be given to the staffs of hospital X ray and radium departments. A method of quantitatively determining the exposure received by radium workers has been developed in the laboratory. Standard photographic films carried in special holders are distributed and worn for a definite time on the persons of members of the staffs of various institutions throughout Australia. On return to the laboratory these films are developed under accurately controlled conditions, and the amount of exposure to which each wearer has been subjected is determined and, where necessary, improvements in the protective measures are recommended. This method of measuring exposure is at present being extended to include both deep therapy and diagnostic X rays.

As a result of experience with protection measures, Mr. Turner prepared a booklet dealing with the practical aspects of protection, and this has been published and distributed by the Department of Health for the guidance of institutions using X rays and radium.

In addition to the programme indicated above, the laboratory has also paid particular attention to the technique of the therapeutic use of radon. The use of radon has many important advantages. Because of its low intrinsic value, patients can be treated as out-patients, thus saving hospital bed accommodation. Further, it can more readily be dispatched to rural radiotherapeutic centres, and when a number of institutions are being supplied with radon, radium can be used much more efficiently by placing it in a central radon-producing station than by the distribution of this radium amongst the various institutions.

The laboratory therefore investigated methods for the preparation of radon and for its issue in containers suitable for hospital purposes. The purification of radon from the other gases which are produced with it is a comparatively simple matter, but certain essential requirements, such as speed of working and reliability of output, introduce certain difficulties. The radon as produced by the radium in solution occurs as one part by volume in about 500,000 parts of mixed gases (chiefly oxygen, hydrogen, carbon dioxide and hydrocarbons), the majority of which has to be removed before it can be placed in containers for issue.

After investigation Mr. Turner developed a chemical method of removing the mixed gases, as well as a method for extracting radon from a supply of the dry radium sulphate, both of which were in use for some years. Recently, because of the greatly

increased demand for radon, Mr. T. H. Oddie has devised a physico-chemical method of purification, which appreciably reduces the time taken. Details of this method will shortly be published.

Although the quantity of radon produced daily is very minute, a very tiny fraction of it would be sufficient to cause irreparable damage to the health of the personnel if it were breathed into the lungs. Because of this, the radium laboratory is fitted with an elaborate ventilating system by which the air in the laboratory can be changed every six minutes. When the more dangerous operations are being carried out, the fan can be accelerated so that the air is changed every two minutes. Special precautions are taken to ensure that any radon liberated at the working benches is withdrawn immediately from the room. In addition, sensitive detectors of radon are placed within the laboratory so that its presence can be revealed immediately and steps taken to avoid risk by the personnel.

Two methods of mounting radon for issue to hospitals have been used in the laboratory. For the first year or two the purified radon was enclosed in thin glass capillary, was measured by the use of a γ ray electroscope and divided into appropriate lengths by melting the glass in a flame, and the glass seed was then encased within a platinum needle. This method, although used extensively abroad, is subject to certain serious disadvantages: (i) The glass capillary is fragile and may be broken readily in the laboratory or in the hospital, leading either to risk to the personnel or to inadequate treatment of the patient, or both. (ii) The needles are not flexible, and therefore cannot be moulded to fit the anatomical site. (iii) The needles made in this way are comparatively large in diameter, causing some difficulty in inserting them in position in the patient. (iv) Needles of only a few types can be issued, because the platinum casings have to be specially made and large stocks of various sizes cannot be carried readily. (v) The subdivision of the glass capillary is a somewhat lengthy process and requires a larger staff when considerable quantities of radon are being issued.

For these reasons Mr. Turner has elaborated a method which was first suggested in America, of sealing the radon in very fine bored capillary tube made of pure gold. Pure gold has the curious characteristic of flowing readily under pressure and making an autogenous weld. The gold tubing can therefore be readily subdivided by cutting with specially shaped pliers and a gas-tight joint is ensured.

The filled capillary is then placed within an outer casing, usually of gold, to provide the necessary screenage. These radon needles can be made of any size to suit the particular case for which they are required, their filtration may be varied to suit individual requirements, and they can be bent at will to suit the particular site into which they are to be implanted. Usually the radon is issued in containers of needle form (complete with thread) with screenage of 0.8 millimetre platinum equivalent, or

as uterine applicators with a screenage of 1.0 or 2.0 millimetres of platinum.

In 1929, 1,013 milligrammes of radium bromide were put into solution in the laboratory for the production of radon. As the demand for radon has grown, additional quantities of radium have been added, until the total is now 1,580 milligrammes. The output of radon from the laboratory has grown steadily each year. Since July 1, 1929, a total of over 140,000 millicuries has been issued from the laboratory, and the present average monthly output is approximately 3,200 millicuries. This radon is issued, free of charge, to nine hospitals in Victoria and Tasmania, and on special occasions issues have been made to hospitals in other States to supplement the local supplies of radon. In addition, supplies of radon, when available, are issued for use in private practice to radiotherapists who have had satisfactory experience of radon techniques in the various institutions.

The Commonwealth Department of Health has also supplied radium for radon centres which have been established in the Universities of Sydney, Adelaide and Western Australia, and arrangements are now being made for the establishment during 1937 of a centre in the University of Queensland.

The drawing of gold capillary and needle casing requires the services of very careful and skilled mechanics. It has been found impossible to have this tubing prepared by commercial firms in Australia, and methods have been devised within the laboratory whereby pure gold rod, at first five millimetres in diameter, is drilled and then passed through specially designed rolls and drawplates until it has the required internal and external dimensions. The laboratory is responsible for the production of the capillary and needle tubing, not only for use in the Commonwealth Laboratory, but also for use in the radon centres in Sydney, Adelaide and Perth.

The radon must be issued with accurately known strengths so that the radiotherapist can use the needles to supply a dosage adequate to destroy the malignant cells, while leaving the healthy cells as nearly as possible unaffected. For this to be done, standardized measurements must be made on each piece of radon-filled capillary. The Commonwealth Department of Health possesses the Australian standard of radium content, the content of which is certified by the International Radium Committee. In addition, a number of research sub-standard tubes was purchased, the contents of which are calibrated periodically against the international standard, and which are lent to the other radon-producing centres in Australia as standards of calibration. In this way the radon is issued throughout Australia in terms of units which have been compared carefully with an international standard.

The accurate determination of radium content, particularly when sources are subjected to varying screenages, is a difficult physical problem. Much work has been done by Mr. Turner and Mr. Oddie

in ensuring that the methods used in the laboratory are of the highest possible degree of accuracy. Recently, Mr. Oddie has been making measurements, using three independent methods of measurement: (i) gold leaf electroscope, (ii) Basting's type electroscope, (iii) electrometer valve amplifier of bridge type. The last-mentioned instrument is capable of magnifying the minute ionization currents produced a million times, and by its use it is hoped to investigate many physical problems connected with the use of radium and of X rays in therapy which could not otherwise be attempted.

In addition to the research work which has been carried out into the physical properties of radium, the staff of the laboratory has also undertaken, in conjunction with medical men, investigations into the biological action of radiation. If correct interpretations are to be obtained from experiments, it is essential that the physical characteristics and quantities of the radiation used, as well as the distribution of dosage throughout a volume of tissue, should be known. The correlation of the physical dosage given and of the clinical results obtained, is a matter of extreme importance in the efforts to improve radiotherapeutic techniques.

From time to time stocks of radium and radon are accumulated in the laboratory for which there is no immediate demand for treatment purposes. By arrangement with the Commonwealth Department of Health, supplies of these elements have been made available for the use of research workers in pure physics in the University of Melbourne. The investigations made possible in this way are of value in that further light is being shed on the complex problem of the interaction between radiation and matter.

The Commonwealth Radium Laboratory has been in operation for more than seven years, and its value not only in connexion with radiotherapeutic institutions, but also as a scientific research laboratory, is an undoubted fact. Its success is due in no small measure to the efforts of Mr. Turner, who was almost entirely responsible for the development of many of its activities, and more recently to his successor, Mr. Oddie.

Both radium and radon are somewhat limited in their applicability in the treatment of cancer; for many conditions treatment with X rays is preferred. With the development of the use of X rays in treatment, many physical problems have arisen and will continue to arise for investigation, and the scientifically accurate application of this remedy under the varying conditions met with in actual practice still presents serious difficulties. The use of X rays in treatment is a somewhat more involved problem than is that of radium, since, whereas the radiations from radium always obey the same fixed laws, the radiations from X ray tubes vary in their wavelength range and in the distribution of energy throughout this range, according to the characteristics of the high tension generator, the X ray tube and the filters employed. X rays are perhaps unique as a therapeutic agent, in that they are

actually produced within the treatment room, and it is therefore essential that the requisite measuring and standardizing apparatus shall be available at the place of treatment for the accurate measurement of the dosage administered. When treating deep-seated tumours, it must be realized that the dose administered at the skin is always greater than that available at a depth within the tissues; and in order to administer a sufficient dose to a deep-seated tumour it is necessary to radiate through a number of different ports, so that no area of skin and superficial tissue receives a sufficiently heavy dose to be damaged. A knowledge of the variation of dose with depth is essential if the doses administered to various tumours in different positions of the body are to be known accurately, and if the practice of radiology is to be placed on a scientific basis. Since the variation of dose with depth is a function of the particular generating equipment used, it must be determined for that equipment by actual measurement. The physical problems of X ray treatment call for a large amount of investigation and for an increasingly close association of specially trained physicists with the work of the radiotherapists in order to overcome, as far as possible, the practical difficulties connected with the application of X rays.

The Sixth Australian Cancer Conference, held in Canberra in May, 1935, included amongst its recommendations a resolution that a central X ray laboratory, which would undertake research and investigations into the physical problems of radiotherapy, and which would set up and maintain accurate standards of dosage, should be established. It was realized that, although research in various parts of the work had already solved many problems, it was necessary to carry out investigational work in this country in close collaboration with each treatment centre if the application of X rays was to be made with accuracy, efficiency and safety. Acting upon this resolution, the Commonwealth Government decided to extend the activities of the Radium Laboratory to include the physical aspects of X ray therapy.

The Commonwealth Department of Health, in association with the Council of the University of Melbourne, established an X ray laboratory in July, 1935. The university made available a modern building fitted with sound-proofed ceiling, efficient heating equipment, and an air-conditioning plant and other special features necessary for a precision high tension laboratory, as well as certain apparatus which had been used for several years in the Natural Philosophy Department, in which particular attention had been paid to X ray research. The Commonwealth Department of Health provided further apparatus and appointed an experienced staff, comprising three physicists and two technical assistants, as well as the necessary clerical assistance.

The X-Ray and Radium Laboratory has the following objectives:

1. The setting up and maintenance of the primary standard of X ray dosage.

2. The setting up and maintenance of a standard of kilovoltage.
3. Research and investigation into the physical problems and difficulties of X ray, radium and radon therapy.
4. The encouragement of the establishment at the various radiotherapeutic centres in Australia of local physical services in relation to radiotherapy.
5. The development of uniform methods of determining X ray quality, depth dose and other quantities which will be measured for every deep therapy installation by the local physical services.
6. The investigation of the protection afforded to radiological workers, and advice on methods by which the exposure received by workers with radium and therapeutic and diagnostic X rays may be determined.
7. To act as a coordinating centre for information regarding the physical aspects of X rays and radium.
8. The stabilization, standardization and improvement of radium and radon techniques.

Definite progress has already been made towards the realization of these objectives, of which possibly the most important is establishment of the standard of dosage, the provision of facilities for calibrating clinical dosimeters and the establishment of local physical services in the various States.

Although dosimeters are in general use in radiotherapy clinics in Australia, there has hitherto been no provision for their accurate calibration for the qualities of radiation with which they are used, and the breakage of the fragile thimble ionization chamber has frequently necessitated the sending of the dosimeter to Europe for recalibration. A free air ionization chamber of approved design and the necessary measuring apparatus have been set up in the laboratory, and the various quantities which must be known for an absolute determination of the Röntgen have been measured in terms of standards bearing certificates of the National Physical Laboratory. From the errors arising in these comparisons it is believed that the Röntgen is reproduced in the laboratory with an accuracy of better than 0.5%; a full description of the methods used and the accuracy obtained will be published shortly.

By comparison with the free air chamber, the Commonwealth portable sub-standard of dosage is periodically calibrated for the various qualities of X radiation used in actual practice. Since this sub-standard is carried by the physicist-in-charge during his visits to the various capital cities, regular calibration of clinical dosimeters can be made. It is also intended that each local physical service should possess a portable sub-standard, which will be periodically calibrated against the Commonwealth standard and then used to calibrate at frequent intervals the dosimeters in the local centres. In this way the measurement of X ray dosages in international Röntgens in every therapeutic centre throughout Australia will be made possible.

An important feature of an X ray standardizing laboratory is a high tension generating equipment which will supply an almost constant and readily reproducible beam of X rays. At present a 200,000 volt, valve-rectified, constant potential generator of the Greinacher type is available, and additional equipment to give at least 500,000 volts will be installed in the future. The applied potential is read continuously by an electrostatic kilovoltmeter of the Starke-Schroeder type, which is calibrated by means of a specially designed voltage transformer. Values of the transformation ratio have been found (a) by design, (b) by a standard sphere gap, and (c) by spectrographic determination to agree to within 1%.

The accurate specification of X ray dosage involves a knowledge, not only of the quantity, but also of the quality of the radiation. The internationally accepted method of specifying quality by means of the half and quarter value layers in copper is being used to determine the quality of all beams used therapeutically throughout Australia.

Further work will be carried out in an endeavour to diminish the errors in the various standardizations made in the laboratory and to ensure that the maximum possible accuracy is obtained. The Director-General of Health has obtained the cooperation of the National Physical Laboratory, and the experience of this institution is being made available. In addition, methods by which a comparison may be made between the standards of the National Physical Laboratory and of our laboratory are being investigated.

In establishing the laboratory it was realized that the collaboration of the physicist with the radiologist who is employing the radiation treatment is of the utmost importance. Any knowledge gained by the physical research worker should immediately be made available to the radiologist for his guidance in treatment. The application of knowledge is just as important as its acquisition, and there should be no hiatus between the acquisition of fresh knowledge and its practical utilization. It is also essential that the physicist should know the problems and difficulties of the radiologist, and work on them in collaboration with the radiologist. To enable this to be done, a system of physical services is being developed under which radiotherapeutic departments of the various hospitals throughout Australia are being encouraged to employ physicists to investigate the physical aspects of radiation treatment and to be responsible for the accurate measurement of the radiation applied. These physical services are to be maintained by the State anti-cancer organizations and based upon the physics departments of the several universities, but their work will be guided and coordinated by the Commonwealth Laboratory. Local physical services have already been set up in connexion with the Universities of Sydney, Adelaide, Western Australia and Queensland, and arrangements are being made for their establishment in Victoria and

Tasmania, while the Royal Melbourne Hospital has itself appointed a physicist to its staff.

The Commonwealth Department of Health has made available the services of the physicist-in-charge of the laboratory for consultation and advice on physical matters connected with radiation therapy to all radiotherapeutic institutions within Australia. During periodic visits to these institutions physical problems and difficulties are discussed and lines of research are suggested. Inquiries for advice on various problems of X ray and radium therapy have been made of the laboratory from twenty-four hospitals within the last six months.

The Commonwealth X-Ray and Radium Laboratory has been established to carry out certain work of a national character, and it brings Australia into line with England, the United States of America, France, Germany and Sweden, in which national laboratories to develop the physical aspects of radiotherapy are already functioning. The Commonwealth Laboratory bears to these institutions a relationship very similar to that which the Commonwealth Solar Observatory at Mount Stromlo does to the other solar observatories throughout the world. In some respects the position of the Commonwealth X-Ray and Radium Laboratory is possibly unique. The Commonwealth Laboratory has been established in close association with a university physics department in which research into problems of pure physics is being continuously conducted. It is also working in close association with the practising radiologists, from whom the practical problems for investigation are selected. Since the laboratory has been made available for free consultation on physical problems to all radiotherapeutic institutions within Australia, it can be seen that its facilities are available throughout the continent. The extent to which these facilities have already been made use of are a clear indication of the value of this service.

The laboratory was formally opened during the Seventh Australian Cancer Conference in May, 1936, by Sir David Rivett, K.C.M.G., Chief Executive Officer of the Commonwealth Council for Scientific and Industrial Research. In his address, Sir David pointed out that, while it was undoubtedly to the credit of Australia that a laboratory was to be opened which aimed at securing maximum scientific accuracy in the application of X rays and radium to the treatment of disease, there was not much reason for pride that the year of opening had been postponed until 1936; and he paid a well-earned tribute to the dogged perseverance and determination of the Director-General of Health, of Professor Laby, and of the other enthusiasts whose aims and ideals were receiving recognition that day, and but for whom the opening of the laboratory would have been further postponed.

The laboratory has been very fortunate in the matter of personnel. For many years research into X-ray and radium physics has been conducted under

Professor Laby in the University of Melbourne, so that when the laboratory was first established, and later, when its scope was extended, the necessary staff was immediately available. Although of necessity the activities of the laboratory embody certain routine work, this is kept to an absolute minimum and every encouragement has been given and many facilities have been provided for undertaking research work. The staff takes this opportunity of expressing its appreciation of the interest which the Director-General of Health has taken in the laboratory and of the sympathetic manner in which he has stimulated the development of the scientific aspects of the work.

Although the activities of the laboratory have been set out along more or less definite channels, it is agreed that future knowledge may modify these in several particulars. It may be that forms of radiation await our use which would be even more effective for the conquest of disease than those we are now employing. Should this be so, then the laboratory must press along the new paths opening up before it and proceed to overcome, as they arise, difficulties standing in the way of the effective application of the fruits of physical research for the cure of human disease and the relief of suffering.

Summary.

The Commonwealth X-Ray and Radium Laboratory has been set up by the Commonwealth Department of Health in conjunction with the University of Melbourne to serve as the national laboratory in radiological physics for Australia.

The Radium Laboratory was established in 1929 to take care of the ten grammes of radium purchased by the Commonwealth Government for the treatment of cancer patients in Australia and to carry out investigational work into the physical problems of radium therapy. The laboratory has elaborated methods of mounting radon in gold tubing, it has undertaken the rescreening of a large number of radium containers, and it has devised methods for measuring the exposure received by radiological workers. Research work has also been carried out on a number of problems.

The scope of the laboratory was extended in 1935 to include the physical aspects of X-ray therapy. A free air ionization chamber has been set up as the Australian standard of X-ray dosage, and means have been developed by which clinical dosimeters throughout Australia can be regularly calibrated in Röntgens.

The laboratory has also undertaken research work into various physical problems of radiation therapy and, through the establishment of local physical services associated with the universities in the several States, facilities have been made available for carrying out all the necessary standardizations of X-ray beams and for ensuring a high degree of accuracy in radiation therapy in Australia.

SOME REMARKS ON ANTE-NATAL SUPERVISION.¹

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I HAVE been interested for many years in the subject of ante-natal supervision. It was at my suggestion that the original ante-natal department at the Adelaide Hospital was established in about 1910, and I was in charge of this clinic. During the War period the clinic lapsed, but it was started again after my return from War service, and was kept going till we had a regular ante-natal clinic established at the Queen's Home about 1921. This latter clinic has now been functioning for about fifteen years, long enough for us to be able to form some opinion about the work, and it seemed that a review of some of the work done at this clinic might be of interest.

It has been generally recognized that regular ante-natal supervision has been responsible for the prevention of many of those cases of severe eclampsia that may occur in obstetric practice, with very often considerable foetal and maternal mortality. That all such cases could not be anticipated and prevented is admitted, even if it were possible to have every expectant mother under supervision; but I think it is generally recognized that the worst cases of eclampsia that occur in hospital practice nowadays occur in those patients who have not attended or been seen in the ante-natal clinic.

The late Professor Ballantyne, of Edinburgh, was probably the earliest obstetrician to advocate regular ante-natal supervision, and his ante-natal clinic was certainly the first to be established in Great Britain. The two obstetrical conditions that Ballantyne aimed chiefly at recognizing and treating were, first, the condition that is now spoken of as toxæmia of pregnancy or preeclampsia, and, second, the slight disproportion in the size of the passenger relatively to the size of the passages, which can be recognized in the later months of pregnancy by careful pelvic examination, and which in some cases may be successfully treated by the premature induction of labour. How the scope of this procedure has been widened will be dealt with later.

Unfortunately, statistics seem to indicate that there has been no noticeable decrease in maternal mortality either in Great Britain or in Australia during the last twenty-five years, such as was confidently anticipated when regular ante-natal supervision was instituted.

It is with the view of stating certain facts in regard to changes that have occurred in obstetric practice as a result of ante-natal supervision that this paper has been written.

My attention was particularly drawn to one aspect of the case some years ago, when the Finance

Committee of the Queen's Home reported that there had been a considerable increase in the cost of drugs at the home without any apparent reason. This matter was referred to me as Chairman of the Medical Board; and when the actual figures were dissected, it was found that the chief increase in the drug bill was in the items of quinine and pituitrin. This led me to get out some statistics to indicate how many drug inductions were being done at the home.

Drug induction of labour with quinine, castor oil and pituitrin first began to be practised about twenty years ago, and its vogue probably had something to do with the more regular supervision of ante-natal patients in the various clinics that had been established about that time.

Having got out these statistics, I decided to get the figures for a similar series of cases attended at the home before the establishment of the ante-natal clinic, and a comparison of these two series of cases forms the basis of these remarks.

I should like to state definitely here that I am not of opinion that ante-natal supervision has been a mistake or is unnecessary. Even if the only thing achieved had been to prevent some cases of severe eclampsia, I think this supervision has been worth while. Also, I feel that from the point of view of the teaching of midwifery, the advantages to students of seeing this routine supervision have been of enormous value. But if we wish to judge ante-natal science as compared with other branches of knowledge by the age standard, I think we must recognize that ante-natal supervision is still in its infancy, and, just as in all new treatments it takes a certain time to accumulate experience, so in the early stages mistakes, unverified diagnoses and prognoses are inevitable.

In all new forms of treatment the pendulum is often apt to swing too far; and what is in my mind is the possibility that perhaps we have been too apt to interfere in some pregnancies, not allowing nature enough scope to accomplish the work that she has been doing for centuries, and whether some of the interference that has been carried out is not verging on the edge of "meddlesome midwifery".

And if there should be any truth in this feeling, I wonder whether for these reasons there may be, in the large increase in the number of cases in which interference with the natural process of labour occurs, any explanation of the fact that there has not been some definite drop in the mortality rate, when on a priori grounds it seemed that there should have been. So that I feel that it might be well to mark time, to take stock of the experience that has been gained, and to make some serious endeavour to formulate more accurately our grounds for diagnosis and prognosis in ante-natal treatment.

The first series of cases that I have investigated statistically is 1,000 consecutive labours that occurred at the Queen's Home from January, 1916, to July, 1920, that is, before the establishment of routine ante-natal supervision. The second series

¹ Read at a meeting of the South Australian Branch of the British Medical Association on October 29, 1936.

of cases comprised 1,000 consecutive labours at the Queen's Home from January, 1929, to December, 1930, that is, after the establishment of routine ante-natal supervision.

The annual reports of the home during this latter period indicate that the vast majority of the patients confined had attended at the ante-natal clinic at least once prior to admission to hospital.

I think we may reasonably assume that the cases in both series are quite comparable in all respects. Although I did not tabulate these two series with the idea of comparing maternal mortality, it is of interest to note that of the seven maternal deaths in the first series, four were due to eclampsia; and there were 58 stillbirths and infant deaths within ten days of confinement. In the second series, of the four maternal deaths in only one was toxæmia given as a contributing cause; and there were 69 stillbirths and infant deaths within ten days of confinement.

Now to consider the question of induction of labour.

In the first series, prior to ante-natal supervision, there is naturally no record of drug induction. There were only six instrumental inductions of labour, and these cases were undertaken for the following reasons: two cases of toxæmia and eclampsia, two cases of contracted pelvis, one case of double congenital dislocation of the hips, one case of *hyperemesis gravidarum*. These inductions were all carried out by the insertion of bougies or by dilatation of the cervix and the use of the Champetrier de Ribes bag.

While I was rather surprised at the small number of inductions of labour in this series, I was no less surprised at the number of inductions and attempted inductions of labour in the second series; and when the reasons for these inductions are analysed, the great widening of the scope of this procedure becomes evident.

In the second series, subsequent to the establishment of the ante-natal clinic, there were 54 inductions of labour, 18 cases of instrumental induction, and 36 cases of drug induction or attempted drug induction.

In seven of these 18 cases in which instrumental induction was used, drug induction was attempted without success before instrumental induction was used.

The reasons for these inductions were as shown in Table I.

TABLE I.

Condition.	Number of Cases.
Preeclampsia, for example, albuminuria, rising blood pressure or insufficient reaction to eliminative treatment	7
Ante-partum bleeding	4
Dead foetus	1
Post-maturity	2
No reason given	4
TOTAL	18

There were 36 drug inductions in the second series. In four of these cases drug induction was not successful, but labour came on naturally at a later date. In four cases drugs were given twice with a view to induction. In three of these labour was started by the second administration; in the fourth an instrumental induction was performed. The reasons for the drug induction were as shown in Table II.

TABLE II.

Condition.	Number of Cases.
Preeclampsia, that is, albuminuria, rising blood pressure <i>et cetera</i>	8
Ante-partum bleeding	1
Disproportion between "passenger" and "passages"	7
Reasons not recorded	14
Other causes	6
TOTAL	36

I should like to make some remarks about the last two classes mentioned in this table. Taking the "other causes" first. Judging by the notes, in the six cases under this heading there was no evidence of toxæmia, and the external pelvic measurements were not abnormal; but the reasons stated in the notes for the inductions were as follows: (a) backache and abdominal discomfort, 1 case; (b) puerperal fever in previous labour, 1 case; (c) drowsiness and uterine inertia, 1 case; (d) pleurisy and a history of phthisis, 1 case; (e) previous stillbirths, 1 case; (f) hysteria, 1 case.

The last-mentioned patient was sent in with a diagnosis of eclampsia, but the notes indicate no evidence of toxæmia and the diagnosis of hysteria was made, but drug induction was used with success.

Fourteen cases come under the heading "reasons not recorded". In these there is nothing in the notes to indicate the reason for the induction. The patients definitely had no evidence of toxæmia, and the external pelvic measurements as given were within the normal range. It is to be presumed that these were probably cases in which a diagnosis of disproportion between the passages and the passenger was the reason, as being likely to give the patient an easier time in labour.

On going through the ante-natal cards, I could not help being struck by the number of patients who were recommended for admission to hospital for drug induction for slight disproportion, but who, for one reason or another, had not been admitted to hospital till labour had started naturally, and who had normal labours. During my term of interne duty I have often found patients admitted for drug induction, but have done nothing and have allowed the patients to wait for natural labour. I cannot give the exact details of such cases, but, extending over some years, there has been a considerable number, and other members of the staff have had similar experiences. It is these experiences that make me suggest that perhaps we are apt to forget how efficiently Nature can look after

these cases of seeming disproportion between the passenger and the passages.

In the case of a patient who has had a drug induction done successfully and whose labour has started, it is not very easy to estimate exactly the effect on the patient. But I think that anyone who has had much experience with drug induction will agree that the patient at the end of an unsuccessful treatment is a tired woman, and I think we must recognize the possible effects of this procedure on the foetus. On a number of occasions patients have said to me that they were glad that proper labour did not start till they had had time to recover from the effects of the drug induction. I am mentioning this because in some cases of doubt one realizes that the feeling is sometimes in the nature of: "Oh, well, give it a go—it won't do any harm, and it might start things off."

It is in reference to these last two classes of patients especially that my remarks apply about taking stock of our experience, and my plea to formulate more precisely the grounds for our diagnosis and prognosis in the light of our accumulating knowledge in ante-natal work. I have particularly excluded from these remarks those cases under the heading of preeclampsia, albuminuria and rising blood pressure. In view of the present-day ideas of the treatment of these conditions, it is only to be expected that there should be a definite increase in the number of inductions in such cases. At the Queen's Home eliminative treatment is the routine in all these cases, and it is for these patients who do not respond sufficiently to such treatment, or who tend to relapse, that induction of labour is undertaken rather than some form of *accouchement forcé* or Cæsarean section, as was so much the vogue fifteen or twenty years ago. I do not think that there can be any doubt about the wisdom of this procedure, especially in view of the definite findings of the committee appointed by the Obstetrical Section of the Royal Society of Medicine some years ago to inquire into the results of the different treatments of the condition of eclampsia and the toxæmia of pregnancy. But in this class of case, too, our endeavours should be to try to judge more accurately which patients can be carried through to their natural labour without even this minor interference.

The experiences of the large number of medical men and women who have now been for some years engaged in routine ante-natal supervision will be the guiding factors in coming to conclusions on these points, and it is my hope that these remarks may stimulate further coordinated effort to standardize more clearly the indications for interference, and to define more clearly those cases that are better left alone.

Acknowledgements.

I am indebted to Dr. Stratmann and Dr. Illingworth, the house surgeons at the Queen's Home, for the trouble they have taken in looking up cases for me.

SOME REMARKS ON THE RELIEF OF PAIN IN CHILD-BIRTH.¹

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OUR secretary wrote to me in London and asked me to read a short paper at the October meeting on any obstetrical subject of my own choice. After due consideration I decided that perhaps a few remarks on the various methods which were being used for the relief of pain during labour might be of interest. During the last six months I have seen numerous methods employed, and I will discuss some of these and will add a few remarks of my own experiences of them.

Before discussing these methods I wish to say that I had noticed that each year the number of what might be called normal deliveries in my private practice had been steadily getting less and less; in other words, a normal birth was rare. Nearly every woman demanded some form of relief of pain at a very early stage of labour. Complete anaesthesia had been used as a routine at the actual delivery, which was always assisted by either pushing or pulling the head over the perineum with or without an episiotomy. Now this frequency of operative delivery worried me and I thought that perhaps my methods were at fault. However, I have discussed the question with several well-known obstetricians in London and America, who informed me that they also very seldom had a normal delivery in their private practice. Their usual method of delivery was that the patients were given nitrous oxide and oxygen or an ethylene anaesthetic during the second stage and the child was extracted. In Edinburgh I found that this same method of delivery was being carried out, except that chloroform was being used.

It seems, therefore, that a natural pregnancy and normal labour belong to the past and that the so-called modern methods of delivery are the result of our civilization. But have we not carried this so-called civilization too far? I refer especially to the question of ante-natal care. Dr. Wilson has just talked on this subject and with what he has said I heartily agree. However, is not far too much fuss being made of the pregnant woman? She is told to report to her doctor at once if something abnormal happens; that she must do this and that. She is examined every month or at numerous times during her pregnancy, and in the end she begins to think that hers must surely be an unusual case. When labour commences she starts to complain of the pain at a very early stage, in an effort, I think, to try to help the obstetrician and to convince him that she is really having pain. The obstetrician then has to resort to drugs and various methods to try to calm the patient.

¹ Read at a meeting of the South Australian Branch of the British Medical Association on October 29, 1936.

One of the most important functions of ante-natal care is to obtain the woman's confidence, so that when labour begins she is quite convinced that she is being looked after by someone in whom she has implicit faith. I have found that the woman who, before labour commences, is firmly convinced that she is going to get along all right and is in good hands demands very little relief of pain during labour. The relief of pain therefore has really started during her pregnancy. If, however, our ante-natal care has made her suspicious that everything is not normal, she enters labour just a trifle uncertain as to its ultimate result and her confidence soon disappears when the labour pains begin in earnest. I have found at several clinics that the ante-natal examinations are tending to be less complicated and that only blood pressure estimations and urine examinations are being made, and that the rest of each ante-natal visit is devoted to mental encouragement. I had the privilege to be present on several occasions in the office of Dr. Rubin, in New York, when he was seeing private patients, and I was most interested to see what very little fuss he made of his pregnant patients. Most of his patients were women who had become pregnant only after tubal treatment, and consequently were all only too anxious to help him in every way. Dr. Rubin afterwards discussed with me the question of how much ante-natal examination should be done, and he was convinced that it should be as small an examination as possible, so as not to sow, as it were, the seed of suspicion or fear that the actual birth would not be normal.

I think, therefore, that really a part of the relief of pain in labour begins in the ante-natal period, and this fact must not be forgotten in our ante-natal care. Once labour has commenced I found that one of the following methods or agents was usually employed to relieve the pain: (i) some form of "twilight sleep", namely, injections of morphine and hyoscine; (ii) barbiturates, such as "Nembutal", "Amytal", given by mouth or rectum; (iii) bromide and chloral, with or without some opium derivative; (iv) chloroform by inhalation from capsules or inhaler; (v) nitrous oxide and oxygen or air or ethylene and oxygen; (vi) rectal administration of ether.

It must be remembered that one method may be more suitable for use in private practice and another in institutions where numerous births are taking place. Again, methods which can be used in hospitals cannot be used in a private house. Thus each method must be discussed from these points of view.

Morphine and Hyoscine.

The morphine and hyoscine method has been in use at the Queen's Home since 1920. I have used it in my private practice and have always returned to it after trials of other methods. The standard dosage which was introduced at the Queen's Home in 1920 is still being used with occasional minor variations. Morphine (one-quarter of a grain or 0.016 grammes) and hyoscine (one one-hundred-and-

fiftieth of a grain or 0.43 milligramme) are given hypodermically as soon as the pains are regular and occurring at about every five minutes. Hyoscine is then repeated every hour in doses of one four-hundred-and-fiftieth of a grain or 0.15 milligramme. It has been our experience that there is no limit to the number of injections of hyoscine, but that the morphine should not be repeated unless it is felt that the child will not be born for at least from two to three hours.

Numerous variations of dosage have been tried. Very occasionally a baby is born who is oligopneic, but I do not know of any case in which the morphine and hyoscine could be shown to have been the cause of the death of the child.

This method is still used extensively in Edinburgh, both in private practice and in the maternity hospital. A letter from Edinburgh a few weeks ago confirmed that and stated that at the Edinburgh Maternity Home numerous methods had been tried, but that at present they had returned to "twilight sleep". In London it is very little used, but in America Cary⁽¹⁾ stated that "it is said to be the second most common type of analgesia".

This method is cheap and can be given in large institutions where the cost of gas or ethylene analgesia or anaesthesia is prohibitive. It can be given in private cases both in hospital and in the house.

The results which I have obtained in a large number of private cases have been excellent, and at the Queen's Home the results have been much better than those of any other method which had been tried.

Barbiturates.

A large number of papers on the use of barbiturates in labour has been published, especially in the American journals. My own personal experience is limited, as after a trial of "Sodium amytal" at the Queen's Home the method was given up for two reasons: first, so many patients become restless and, secondly, the cost of the drug for institutional practice was far too high.

I found in America that most obstetricians are using "Nembutal". The dosage varied considerably. For instance, in a large hospital in Chicago "Nembutal", seven and a half grains or 0.45 grammes, combined with an injection of scopolamine, one one-hundred-and-fiftieth of a grain or 0.43 milligramme, was extensively used. At another hospital an initial dose of "Nembutal", five grains or 0.3 grammes, combined with sodium bicarbonate, 30 grains or two grammes, was given. In New York, at the Women's Hospital, "Nembutal", five grains or 0.3 grammes, was given as an initial dose and was repeated, whilst Rubin informed me that he gave "Nembutal", three grains or 0.18 grammes, repeating the dose in two to three hours.

At all these hospitals ethylene or a combination of gas and oxygen was given for the delivery in all cases. It was found that the patient was too doped to deliver herself, and so some form of operative delivery had to be carried out. The patient was

always put up in the lithotomy position and draped in sterile towels, and the foetal head was either pushed or pulled over the perineum while the mother was under deep gaseous anaesthesia; a lateral episiotomy was frequently done.

The main objection to "Nembutal" was that a certain number of patients became restless and it was essential that a nurse should be always present. I inquired from the internes regarding the restlessness, and they all informed me that nearly every patient became restless. I was informed that in one hospital rectal administration of ether and oil was used for those patients who became restless, whilst to others gas and oxygen or ethylene was administered. It appears that "Nembutal" acts very well in some cases, but that the percentage of patients who become restless is high. However, I am told that if bicarbonate of soda is given with the "Nembutal", restlessness is eliminated. "Nembutal" has been tried at the Queen's Home and various doses have been used. The labour ward sister told me that the patients give much less trouble with "Nembutal" than with morphine and hyoscine, and she thought that when a satisfactory general dose had been fixed "Nembutal" would supplant "twilight sleep". More experience, however, is required.

Potassium Bromide and Chloral Hydrate.

Potassium bromide and chloral hydrate are very popular in London at the present time. Thirty grains or two grammes of each are given and repeated in two to three hours if necessary, and sometimes tincture of opium, ten to twenty minims or 0.6 to 1.2 cubic centimetres, is added to the second dose. Nitrous oxide and oxygen are usually given continuously during the second stage in private cases, and inquiry seems to prove that the combination of bromide and chloral hydrate with nitrous oxide and oxygen is very successful.

My own experience is that it is only in certain cases that these drugs are of any value, namely, in those cases in which the pains are very irregular—in fact when the patients are not in true labour.

Chloroform.

There are two methods of giving chloroform, one by capsules and the other by an inhaler of the Christie Brown type. However, the main disadvantage of chloroform is that if it has been given during a long first stage by either method and then stopped for some time, it must not be given again, as the risk of delayed poisoning becomes very great. It was thought that the capsules of chloroform could be used by the woman herself without danger. However, if an operative delivery has to be done later, then chloroform should on no account be used for the delivery, but some other anaesthetic.

Chloroform given in the second stage is a very useful drug, but I do not think it should be given in the first stage. At the Queen's Home chloroform has been given for years in nearly all deliveries.

In fact it is the routine general anaesthetic for delivery, and I can state that I know of no case of chloroform having been the cause of death of the mother or of even worrying the staff. I have always used chloroform in the second stage in private practice for the delivery of the head, and have found it most satisfactory.

Nitrous Oxide with Air, or Oxygen and Ethylene.

The nitrous oxide with air or oxygen and ethylene type of analgesia and anaesthesia is very popular in England at the present time. An apparatus has been devised by Dr. Minnitt which allows the patient to give nitrous oxide to herself, and as soon as she becomes unconscious, the flow of gas is automatically cut off. The patient is taught how to use the apparatus and is told to start breathing when she feels that a pain is about to start. She takes a few breaths, holding the mask firmly on the face, pressing down the valve, and as soon as she is unconscious the face-piece falls off and the flow of gas is stopped. If she will cooperate in this way, then the results are excellent. Gas and air can be given by this method during the first stage, and in the second stage she is still able to bear down in the usual way. The anaesthetic can then be given continuously for the delivery of the head.

The cost of nitrous oxide rather prohibits its use in a public hospital, but for private patients Minnitt has devised a portable apparatus which is most convenient.¹

Gas and oxygen are given in London by an anaesthetist all through the second stage with very good results in private cases; but of course this is very expensive. In America, where expense is of no account, gas and oxygen or ethylene is given to every patient in the public as well as in the private hospitals. From what I saw and heard, this gaseous anaesthesia, which is usually used after "Nembutal", gave excellent results, and there were no bad effects on either the mother or child, the expense being the only contraindication.

Rectal Administration of Ether.

The rectal administration of ether is not popular in England and is being given up in America. However, in some clinics in America it is used to calm the restless patients who have had "Nembutal".

A Report on Analgesics.

I should now like to mention a report which has been published by the British College of Obstetricians and Gynaecologists⁽²⁾ in January of this year, on the results of an investigation into the use of analgesics suitable for administration by midwives. Thirty-six hospitals were asked to take part in the investigations, and three drugs were chosen for investigation: (a) chloroform, given as capsules or by some inhaler, such as the Christie Brown or the Mennell inhaler; (b) Minnitt gas and air apparatus; (c) paraldehyde given *per rectum*.

¹ At this stage Dr. Swift demonstrated Minnitt's portable machine.

Over nine thousand cases were investigated and the report stated that the administration of gas and air by the Minnitt apparatus was safe for midwives and that they should be specially trained to use the apparatus. The report went on to state that the apparatus produced a satisfactory analgesia in a high proportion of cases, but that the cost of the nitrous oxide was high. The report on chloroform stated that when given by any method chloroform carried with it a danger of death from diffuse necrosis of the liver (delayed chloroform poisoning), and although the Christie Brown and Mennell inhalers overcame the risk of an overdose, the capsules were a distinct danger. Paraldehyde given *per rectum* could not be recommended, as it did not provide adequate analgesia.

From this report it is seen that gas and air administered by the Minnitt apparatus is a safe and satisfactory method of producing analgesia, although the expense is high. No doubt the cost of nitrous oxide will be lowered, and it appears that this method is at last an advance in painless child-birth.

Conclusions.

1. "Nembutal" is the best drug in the barbiturate series, but cases of restlessness are fairly common; no doubt a correct dosage will be found that will overcome this drawback.

2. Gas and air as administered by Minnitt's apparatus are a distinct advance in the methods of obtaining painless child-birth and should be tried in maternity hospitals in Australia.

References.

⁽¹⁾ Eugene Cary: "Analgesia and Anesthesia in Labor", *Illinois Medical Journal*, April, 1936.
⁽²⁾ Publication by the Council of the British College of Obstetricians and Gynaecologists on "An Investigation into the Use of Analgesics Suitable for Administration by Midwives", January, 1936.

THE TREATMENT OF EARLY CARCINOMA OF THE LIP, WITH SPECIAL REFERENCE TO THE USE OF LOW KILOVOLTAGE X RAYS.

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DURING recent years the number of statistics for the treatment of early carcinoma of the lip has rapidly increased, and the results obtained by irradiation appear more favourable than those obtained by surgery. In this paper, based on 140 cases treated by myself over the last six years, it will be seen that the results again favour the use of irradiation. In addition, X rays of low kilovoltage are shown to produce results equal to those hitherto produced almost exclusively by the large higher kilovoltage machines.

The methods of treatment commonly employed today for carcinoma of the lip may be summarized as follows: (a) surgical excision, (b) electro-coagulation, (c) the diathermy cutting knife, (d) irradiation, (e) a combination of surgical excision or electro-coagulation treatment and irradiation.

All the above methods have their advocates, but more and more authorities are now employing irradiation methods in preference to surgery. Before discussing the cases treated by myself, and the different methods employed, it would be well to mention the ordinary types of pre-malignant lesions occurring on the lips, and also the clinical appearances of the different types of early carcinomata of the lips commonly encountered.

The pre-carcinomatous lesions most commonly seen are: (a) leucoplakia, (b) hyperkeratoses, (c) papillomata, (d) fibrous nodules and scars from previous trauma, (e) chronic fissures. In the treatment of these conditions, with the exception of (d), any of the above-mentioned methods may be employed. For leucoplakia and hyperkeratoses, although electro-coagulation may be used, irradiation gives such good results and causes so little inconvenience to the patient that it appears to be the method of choice. For papillomata both the cautery and the diathermy needle are efficient, but the base of the lesion and a little surrounding tissue should be irradiated as an extra safeguard against possible malignancy. It is probably better to leave fibrous nodules and scars untreated unless signs of activity become apparent, when they may be treated according to type. Chronic fissures will usually heal well if touched with a cautery.

Early carcinomatous lesions may be broadly divided into the proliferative or papillomatous, protuberant type, and the ulcerative or deeply infiltrating type, of which the latter has been found to be the more malignant. These two types may again be subdivided into three clinical types according to their situation: (i) those situated on the outer surface of the lip without involvement of the vermillion border, (ii) those involving the vermillion border of the lip, (iii) those involving the moist mucous membrane of the lip. A fourth type, which is beyond the scope of this paper, comprises those lesions involving the reflection of the mucous membrane onto the gums.

The possibility of subsequent glandular involvement has been found to be greater in those types which grow fast and involve the mucous membrane.

Broders,⁽¹⁾ in 1920, described the varying grades of malignancy found in cancer of the lip, according to the differentiation of the cellular elements of the growths. Grade I of Broders's classification is by far the commonest, and involves glands only at a late stage. Grades II and III are found in diminishing proportions. The former is better treated by removal of the primary lesion without excision of the regional glands. Even Grade III may be treated similarly, if careful observation is subsequently kept for glandular involvement, though here there may be room for argument. Grade IV types are

never cured, and do not enter into the scope of this paper. Broders's classification now has a number of dissentients, for example, Zwick,⁽²⁾ with whom I agree in his belief that tumours should not be graded with reference to prognosis on the basis of the number of differentiated and undifferentiated cells; they should be graded by their most malignant parts, and not by the average structure.

Concerning the subject of glandular involvement, I agree with those who advocate treatment of the primary lesion by irradiation without excision of the cervical glands, unless there is palpable involvement. Provided the patient can be kept under observation, the glands can subsequently be removed immediately involvement, if any, occurs. Many surgeons cling to the belief that routine removal of the cervical glands is a "safety first" measure which should always be employed, but more and more are gradually becoming weaned from this doctrine. If removal of the cervical glands were a certain preventive of subsequent metastases, I should be among the first to support it. Even the most ardent advocates of this operation must admit that it is not always successful, as it is utterly impossible for a scalpel, however skilfully wielded, to seek out and remove every minute cancer cell which is invisible to the naked eye.

It would be of interest to mention here a few of the numerous opinions of the world authorities who favour treatment of the primary lesion and subsequent observation of the regional glands; among these are included surgeons as well as radiologists and dermatologists.

Collin⁽³⁾ has obtained his best results in treatment of cancer of the lip with radium followed by prophylactic Röntgen ray treatment of the regional glands with soft rays. His results with radium alone for the primary lesion have been almost as good, and he claims 80% of cures.

Crile⁽⁴⁾ expresses the opinion that the collar of lymphatics about the neck forms an impassable barrier through which cancer rarely penetrates.

Hollander⁽⁵⁾ expresses the opinion that as long as no palpable glands are present, one should not attempt any block dissection, as he considers that the lymph glands are one of the factors of safety which lie between the patient and his grave.

Elliott⁽⁶⁾ employs electro-coagulation and X radiation to the primary lesion, followed by high voltage X rays to the regional glands, and claims 100% of cures with no deformity as against 75% to 90% of cures with surgery, which is followed by a certain amount of deformity. He also states that electro-coagulation and irradiation in the hands of Pfahler,⁽⁷⁾ Stevens⁽⁸⁾ and himself show a higher percentage of cures in primary epithelioma of the lip than the available surgical statistics show. It is his opinion that the clinical diagnosis made by the dermatologist is more accurate than that made by the surgeon.

Bloodgood,⁽⁹⁾ (although he advocates removal of the regional glands) has excised numerous tumours of the lip and examined them microscopically. He found that more than 60% were benign, and, of the

remaining 40%, in more than 75% the glands, when removed, showed no evidence of metastasis.

Quick⁽¹⁰⁾ has found that the greater number of patients with epitheliomata of the lip are treated most satisfactorily by surface applications of radiation using the cross-fire method; and in these cases it is the exception rather than the rule to find palpable metastatic nodes.

In an editorial⁽¹¹⁾ in *The American Journal of Cancer* in 1932 it was stated that the impression that metastatic malignant conditions might occur more frequently following radiation than surgical intervention was attributable to the prolongation of life following radiation treatment permitting time for the development of previously disseminated cancer cells into active malignant lesions.

Martin⁽¹²⁾ described a series of 108 cases with no glandular involvement in which the primary lesions only were treated. Four patients later developed malignant nodes in the neck, and 96.3% were well after five years.

Cade⁽¹³⁾ showed cases before the Section of Dermatology of the Royal Society of Medicine in 1930, in which he had treated the primary lesions with radium, and not treated the glands of the neck, as they were not palpable.

Hyndman⁽¹⁴⁾ considers that if there are no palpable nodes, the primary lesion (if belonging to Group I or II of Broders's classification) should be removed with margin, but that further surgery is not advisable.

Howles⁽¹⁵⁾ expresses the opinion that in no area of the body is cancer more amenable to treatment, when treated early, than in the lip.

Shelmire and Fox⁽¹⁶⁾ employ the Regaud method of interstitial radiation for cancer of the lip, and employ surgery only when metastases are detected.

Pusey⁽¹⁷⁾ does not consider hard irradiation of metastatic carcinoma of the neck of any use. (The experience of most observers would seem to support this view, to which I personally incline.) He states also that he has had no occasion to regret the use of Röntgen therapy alone for cancer of the lip over many years.

Molesworth⁽¹⁸⁾ has had excellent results in the treatment of cancer of the lip with X radiation using 120 kilovolts constant potential and one millimetre of aluminium filter. He delivers 700 r units to each side of the lip. In only one of his cases have there been subsequent metastases in the regional glands. In two cases there was local recurrence due to failure to expose a sufficiently wide margin of apparently normal tissue. Molesworth has now treated over 100 cases (personal communication) in this manner.

The percentage of patients without palpable glands who subsequently develop them varies according to the statistics of different individuals from 0 to 20. If half this amount is taken as an average, that is, 10%, and it is borne in mind that a certain percentage of these again, if the glands are removed early, will be cured, it seems hardly reasonable to subject to this not inconsiderable

operation from 90% to 95% of people who do not need it for the sake of the very small percentage of those who do. This becomes more apparent when one considers that the mortality of the actual operation for the removal of the cervical glands is not negligible, as some statistics are quoted showing a mortality of approximately 11% (Kennedy).⁽¹⁹⁾

Fisher⁽²⁰⁾ is favourably impressed with the action of radium on early cancer of the lip. The indications which lead him to consider excision of the regional glands advisable, are mainly very sound, but verge towards the "surgical safety" side. Only time and statistics will tell if the glands should be removed in every case for which he advocates the operation. For my part, I feel, with many others, that the less the knife is used, the earlier will patients present themselves for treatment. Once the use of the scalpel (of which the average patient has an inherent fear) can be eliminated, the dermatologist, who is perhaps in a better position to make early clinical diagnoses of lesions on the lips than members of other branches of the profession (owing to his greater opportunities for seeing these cases), will probably play a larger part in reducing to a minimum the necessity of operation for cancer of the lip.

Treatment of Pre-Malignant Lesions.

In the treatment of pre-malignant lesions, a radium plaque may be employed either with or without filtration. A useful routine measure is the application of a half-strength plaque with a 0.1 millimetre of Monel metal filter to deliver a dose of 12.5 milligramme-hours per square centimetre of surface. Alternatively, interstitial radiation may be employed, with radium needles screened with from 0.5 to 0.6 millimetre of platinum for from 72 to 96 milligramme-hours per square centimetre, or the equivalent with radon. With X radiation the delivery of 900 r units through one millimetre of aluminium filter has given excellent results in my hands. The lesion is screened to within one centimetre of its edge.

Treatment of Early Carcinomata.

X Rays.—Over the last six years I have treated seventy-two cases of early carcinomata of the lip with X rays. Only eight of these lesions measured more than three centimetres in length parallel to the lip margin. In the whole seventy-two cases I have seen only one subsequent involvement of the cervical glands, which occurred in a patient with a large lesion, measuring four by two centimetres, on the left side of the lower lip. The lesion involved the mucous membrane. As the patient lived in the country and was unable to remain under observation, he was advised to have the regional glands removed. He neglected the advice and returned to see me three and a half years later with a metastatic node in the left side of his neck.

There have been no marginal recurrences in my series of cases so far as I have been able to ascertain. Naturally, some of the more recently treated patients still have time to exhibit local recurrences or regional metastases during the next few years.

The technique which I have employed is as follows: Both sides of the lip are irradiated by the cross-fire method. The lip is first everted and a sheet of tinfoil is placed between it and the chin. The lip is then strapped in this position with adhesive plaster. A plug of cotton wool about one inch thick is inserted between the upper lip and the everted lower lip. This keeps the lips separated and forms a firm background on which to strap a further piece of tinfoil. This latter piece of tinfoil is then cut in such a manner as to form an aperture which, when placed around the lesion to be treated, protects the normal skin to within 1.5 centimetres of the visible or palpable edge of the tumour. It is then strapped in this position. The head of the patient is fixed between sand-bags and the glass applicator of a "Metalix" tube is placed in position and lowered to within an inch of the screening tinfoil. The applicator with a two-inch diameter is employed so that a small unconscious movement of the patient's head which is steadied between sand-bags does not move the area under treatment outside the X ray beam. One and a half erythema doses, or approximately 700 r units, are then delivered at right angles to the inner surface of the tumour. The lower lip is next allowed to resume its normal position, except that the cotton wool is left *in situ*. A strip of tinfoil is placed between the lip and the gums. The same screen is arranged around the lesion on the outer aspect of the lip, and another 700 r units of X radiation are delivered at right angles to the outer surface of the tumour. The factors employed are: 110 kilovolts (peak voltage), 6 milliamperes, 2 millimetres of aluminium filter, and a skin unit distance of ten inches.

It will be noticed that this kilovoltage is considerably lower than that mentioned in text-books or journals on the subject of X radiation for cancer of the lip. When I first commenced to use this treatment, all the literature on the subject gave the impression that it was necessary to have a large deep therapy apparatus to treat cancer of the lip. Consequently, it was with some trepidation that I originally assayed to cure this condition with an ordinary skin therapy machine. The early results, however, were so satisfactory that I was encouraged to proceed, and I have since found the results to equal any obtainable with the more powerful machines.

In the first place I employed only one millimetre of aluminium filter, but have employed two millimetres over the last three years, as the reaction and temporary inconvenience experienced by the patient are definitely reduced by the heavier filter. A dusky red reaction follows the above treatment in about eight to ten days, with, usually, a mild erosion of the mucous membrane. This lasts for about two weeks (whereas with one millimetre of aluminium it usually lasts about three weeks) and the lip is well, with no remaining infiltration, in about eight weeks.

Morison, Hugo and Mayneord⁽²¹⁾ have recently commenced treating cancer of the mouth and other

areas with a kilovoltage of 60, following the work of Chaoul.

Radium.—Fifty-eight of my patients were treated with radium. Nine were treated with a half-strength radium plaque through 0.5 millimetre of Monel metal filter and one layer of cork. One hundred and twenty-five milligramme-hours per square centimetre was the dose delivered in each case. Forty-nine cases were treated with interstitial radiation, which is eminently more satisfactory than the use of plaques, owing to the difficulty of keeping the latter in accurate position over long periods. Before treatment is commenced, dental sepsis should receive attention or the subsequent reaction is greatly increased. In the technique employed with interstitial radiation, two needles containing two milligrammes of radium in one centimetre of active length and screened with from 0.5 to 0.6 millimetre of platinum are inserted parallel to each other, pointing in opposite directions. They are placed one on each side of the tumour, just outside its palpable edge, after a local anaesthetic has been administered. The needles are then stitched to the lip and the threads tied together. The long ends are again tied in one knot and strapped to the adjoining part of the face or chin. The needles are left *in situ* until a dose of approximately 622 milligramme-hours for growths with diameters varying from one to two centimetres has been given. When the lesions are larger than this, an additional needle is inserted; and when the lesions are smaller, two unit one radium needles are usually sufficient.

This treatment is followed in about a week's time by a brisk red reaction and frank erosion of the treated lip, which, in from two to three weeks' time, extends onto the neighbouring lip and often onto the gums and tongue. The reaction may even commence earlier, and usually lasts for from four to six weeks. During this stage a 1% white precipitate ointment is applied three times a day to prevent sepsis and sticking together of the lips. The burning and discomfort to the patient are considerable when compared with the relative comfort of the reaction following X ray treatment. The lesion usually takes about eight to twelve weeks to disappear entirely, and is sometimes followed by a small, hard, fibrous nodule where the needles have been inserted. This nodule may at first give the impression that a portion of the original growth still remains. Observation of a number of these cases has, however, proved the benign nature of this occasional nodule. Generally the final result is in no way inferior to that obtained by X radiation therapy.

Advantages of X Rays over Radium.—From the patient's point of view, the advantages of X rays over radium in treatment may be enumerated as follows:

1. Treatment is carried out inside twenty minutes (with my own X ray machine), which allows for the cutting of shields and arrangement of the patient; the actual delivery of the dose occupies thirteen and a half minutes. The advantage of this is apparent in the case of a patient from the country or of an

aged individual, who can have the treatment performed in a short period and avoid the necessity of having to spend a number of days under observation with radium needles buried in the lip.

2. There is no pain whatever accompanying X radiation, whereas the administration of a local anaesthetic is accompanied by some definite discomfort, which is accentuated in many cases by a patient's natural dislike for the use of needles.

3. Again, there is the discomfort resulting from the presence of radium needles in the lip and the subsequent added discomfort caused by their removal.

4. It is unnecessary (even though advisable on general principles) to clear up dental sepsis before X radiation treatment, as the gums and teeth are shielded and do not take part in the reaction. This forms another time-saving factor, which is often of importance.

5. The reaction from X rays, besides being shorter and less severe over the irradiated tumour area, is strictly confined to this area. With radium needles it spreads to the neighbouring tissues and often causes the patient no little temporary distress.

As one who uses both X rays and radium equally in the treatment of skin diseases, I hold no brief for the greater efficiency of either method as a general therapeutic agent. My choice of one or the other depends entirely upon the area to be treated, and the lip is one area which, in my opinion, is obviously more amenable to the use of X rays.

Radon.—Over the last six months I have treated ten cases of carcinoma of the lip with radon needles, using an equivalent dose to that employed with radium. So far the results have been similar in every respect to those obtained by radium.

Up to the present I have seen no local recurrences among my own patients following radium treatment, nor any subsequent involvement of the cervical glands. While there is yet time for some of the more recently treated patients (either with X rays or radium) to manifest subsequent glandular involvement or local recurrences, over half my patients have now been observed for from three to six years. Thus, it may justifiably be claimed that less than 1% of regional lymph gland involvement has occurred; and no local recurrences have occurred up to the present date as far as it has been possible to ascertain.

It is my intention to continue the treatment of early carcinomata of the lip along these lines, and to publish further statistics in the future. The statistics shown would seem to compare more than favourably with those obtained by radical surgery, from the aspect of subsequent morbidity and mortality.

Summary.

1. Recent statistics for the treatment of early carcinoma of the lip, supported by the results obtained in 140 cases dealt with in this paper, tend to favour the use of irradiation in preference to surgery.

2. Methods of treatment commonly employed today have been mentioned.

3. The types of pre-malignant lesions of the lips usually encountered and appropriate methods of treatment have been briefly outlined.

4. The clinical types of early carcinomata of the lips have been enumerated.

5. The varying grades of malignancy according to Broders's classification have been mentioned, together with the opinion of one of the later dissentients from this classification.

6. Reasons for the treatment of the primary lesion alone, and subsequent observation of the regional glands (unless palpably involved) have been set forth.

7. Surgical as well as dermatological and radiological authorities have been quoted supporting this procedure.

8. The advantage of eliminating "fear of the knife", as an important factor in encouraging more patients to seek early treatment, has been dealt with.

9. Briefly detailed methods of treatment for pre-malignant lesions of the lip by irradiation have been given.

10. The treatment of 72 early cases of carcinoma of the lip by X radiation has been outlined. These patients have shown no marginal recurrence and only one exhibited subsequent glandular involvement.

11. The technique employed has been described in detail.

12. Attention has been drawn to the results obtainable with an ordinary skin-therapy machine of comparatively low kilovoltage. These results compare favourably with those obtained by more powerful machines.

13. The treatment of 58 cases with radium has been outlined, and the advantages of interstitial radiation over surface applicators have been mentioned.

14. The advantages of X rays over radium have been enumerated as follows: shortness of time required for actual treatment; absence of all pain during X radiation; elimination of discomfort caused by the presence of implanted radium needles, and of the subsequent discomfort of their removal; preliminary attention to dental sepsis is not as essential with X radiation—an extra time-saving factor; the subsequent X ray reaction is localized, shorter and much less distressing than that following the implantation of radium needles.

15. The lip has been mentioned as one area where treatment by X rays appears to be the method of choice.

16. Reference has been made to ten cases treated with radon over the last six months.

17. The possibility that some of the more recently treated cases may show subsequent local recurrence or glandular involvement has been allowed for, but less than 1% of cases showing subsequent glandular involvement and no cases showing local recurrence have been noted up to the present.

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Reports of Cases.

GONOCOCCAL OPHTHALMIA: THE RESULTS OF TREATMENT WITH FOREIGN PROTEIN INJECTIONS IN FIVE CASES.

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AND

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THE dread results of gonorrhœal ophthalmia can hardly be over-emphasized; indeed, in gonococcal conjunctivitis corneal complications are the rule and constitute the causes of blindness.¹

The following contribution is the result of a study of a small series of cases which were treated concurrently, and the observations are recorded in the hope that they may

prove useful in the treatment of similar cases, especially in view of the relative infrequency of the condition in modern ophthalmic practice.

Description of Cases.

Cases I to IV (Complicated).

Cases I, II, III and IV were complicated by trachoma. Four children, whose ages ranged from three to eight years, were referred from an aboriginal mission station in the western district and admitted to the Orange Base Hospital early in December, 1935.

On examination the most striking impression was a persistent spasm and oedema of the lids with associated photophobia; a typical profuse yellow discharge was present. The palpebral conjunctiva was not only congested and edematous, but also bore evidence of a well developed trachoma. Each cornea was hazy and edematous and in practically all the eyes ulceration had already taken place, resulting in prolapse of the iris of varying degrees (one eye in each case). In one instance ulceration was already so severe at the time of the patient's admission to hospital that perforation occurred on the first day, even though treatment was given; prolapse of iris followed and iridectomy became necessary. In another eye the prolapse was so extensive that for a time it seemed that enucleation would be needed.

The diagnosis of gonococcal ophthalmia was made, and confirmed bacteriologically.

Each of these patients left hospital at the end of three months with one good eye. The eyes which had perforated before admission settled down well and showed leucomatosus scarring with large anterior synechiae, but were not staphylomatous.¹

Case V (Uncomplicated).

A fifth case occurred in an adult contact and is of interest not only as a contrast, but because it was possible to commence observation within a few hours of infection.

This patient, a nurse, aged twenty-three years, was first seen at 9.30 p.m. on January 1, 1936, complaining that the right eye had been "smarting for twelve hours". (The eyes had been examined three days previously and were then normal.) Both lids were swollen and tense, while a muco-purulent discharge exuded from the palpebral opening. The conjunctiva presented a velvety appearance owing to acute chemosis and congestion, while the cornea was cloudy, but the iris appeared clear.

Treatment was commenced immediately. Two hours later the upper lid was swollen to the degree of a brawny oedema, forcible separation of the lids was necessary in order to view the cornea, while eversion was impossible. The whole eye was intensely painful. A Buller's shield applied to the left eye was not well tolerated, and in twenty-four hours this eye also showed signs of infection and went through a similar cycle of changes. It was noticed that the discharge in this case tended to be more blood-stained.

At first the patient exhibited the typical constitutional disturbance and mental depression, but the eyes had responded well to treatment by the end of two weeks. Despite continued active treatment, however, the condition became acute again on February 4, having been quiescent for nearly a fortnight. Fortunately the relapse was not severe, and on February 27 the eyes were completely clear. The fundi were normal and vision was % in each eye.

The patient was able to leave hospital on March 2 and resumed duty on March 29 with normal sight (nearly three months after infection).

Treatment.

Treatment was carried out intensively in all five cases as follows.

1. Irrigation with potassium permanganate lotion (1 in 8,000) was used. All eyes were irrigated at first every half hour and later every two hours.

¹ The subsequent history of one patient is interesting. The child returned in September, 1936, nine months later, with a huge anterior staphyloma involving the whole of the right cornea and protruding beyond the closed lids. Enucleation was the only possible treatment. Vision in the left eye was normal, and there remained only a small linear nebula of the lower part of the cornea.

2. Acriflavine drops were used every four hours (acriflavine in castor oil 1 in 1,500).

3. Atropine drops were used every four hours (atropine sulphate 1% solution).

4. Milk injections were given in large doses and will be discussed below.

5. The lids were brushed with silver nitrate (1%).

The brushing was commenced at the fifth day and was repeated on every alternate day with improvement of the ulcers. The eyes were watched closely for any deleterious effects as described by Bruce Hamilton² (when a strength of 2% was used), but none were observed. Gloves and goggles were worn by all contacts.

Treatment with Milk Injections.

Injections of pasteurized milk were given to each patient. Next to irrigations, this is the most important therapeutic measure in the disease.³ Since the shock-producing properties of milk probably depend in large part on its bacterial content,⁴ the following method was used. The required quantity in a sterile test tube was placed in a vessel of cold water and brought to the boil for three minutes. It was then allowed to cool, by standing, before injection.

In the treatment of children the initial quantity was two cubic centimetres given intramuscularly into the buttock, and this was repeated in increasing doses daily. On the third day a reaction occurred in each case with a temperature of 38.3° to 38.8° C. (101° to 102° F.) from a dose of five cubic centimetres. No further injections were given.

For the adult patient the initial dose was eight cubic centimetres given intramuscularly. This was increased daily till a reaction (temperature 38.8° C. or 102° F.) was obtained on the fourth day, when the dose had reached five cubic centimetres.

The only local reaction was slight tenderness and swelling at the sites of injection which quickly subsided without any suggestion of abscess formation. Caution was exercised when treating the children as they were all suffering from chronic malnutrition. This is said to be a contraindication to the treatment,⁵ but fortunately no alarming symptoms arose. Anaphylaxis did not occur in any instance.

Comment.

The following features are, in our opinion, worthy of comment:

1. The severe damage in those eyes in which the resistance was already lowered by the presence of trachoma.

2. The absence of any bad effect on corneal ulceration from silver nitrate (1%) brushings even in the acute stage.

3. The response to milk injections and the absence of any untoward reaction from large doses.

4. The good end-result in all eyes which were not already hopeless when treatment was undertaken.

5. The value of immediate intensive treatment of the adult patient, in whom no ulceration in either eye occurred.

Summary.

1. Five cases of gonorrhoeal ophthalmia are described and the results are compared; one case was uncomplicated and the other four were complicated by trachoma.

2. A description of the treatment is given, with a special note on the effect of silver nitrate brushings, and protein-shock therapy.

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FOREIGN BODY IN THE HEART.

By S. W. WILLIAMS, M.D. (Melbourne).

W.C., aged two years, was playing in the street when he fell over and commenced to cry. His mother ran out, picked him up and held him closely to her chest. She then noticed a small, painful projection in the child's anterior chest wall, and immediately surmising that a rib had been broken, she took him to a medical practitioner, who referred him to the Children's Hospital, Melbourne.

The child was dyspnoic and appeared to be having pain with respiration. In the anterior chest wall, 1-9 centimetres (three-quarters of an inch) to the left of the midline, in the fourth intercostal space, there was a small subcutaneous projection, which was moving rapidly and synchronously with the heart beat. On X ray screen examination a needle was detected in the chest. The child was given a general anaesthetic, a small incision was made in the skin, and the end of a darning needle was located. The needle was projecting at right angles to the skin, and was therefore in such a position that it probably penetrated the wall of the right ventricle. It required a firm pull to remove it. The length of the needle was 5-9 centimetres (two and three-eighth inches). It was removed vertically from the chest. The mother recognized it as one which had been placed in her apron shortly before she picked up the child.

The child has made an uninterrupted recovery. At no stage did he exhibit any circulatory distress. In three *post mortem* subjects (children) of the same age, by placing the needle in a similar position to that described above, subsequent examination confirmed the fact that the needle penetrated the right ventricle of the heart.

I wish to thank Dr. W. W. McLaren for permission to report this case.

Reviews.

TAYLOR'S MEDICINE.

THE fifteenth edition of Taylor's "Practice of Medicine" maintains the high standard previously set in this text-book.¹ E. P. Poulton, as before, is responsible for the bulk of the book, and has thoroughly revised the text, so that it will be found to be as up to date as is practicable and desirable for a book of its type. The explanatory sections in which general principles are dealt with are clear and compact, as before, and the important subjects in general medicine are adequately covered. Here and there one might wish for a little more detail. For example, toxin-antitoxin is the only material mentioned as being used for immunization against diphtheria. Coronary thrombosis is not given as full a description as its importance warrants, especially when it is found that more space is given to gastropathy, the claim of which to serious consideration as a form of perverted physiology is more than doubtful. On the other hand, many useful details are included, even though compression is so essential in this type of work. For instance, the use of an extemporized blower is suggested in treating pulmonary oedema, though it is not sufficiently emphasized that this accident is not seldom one of the forms assumed by the acute coronary syndrome. The description of the oxygen tent, as might be expected, is useful and carries with it the personal experience of the author.

Many additions have been made to the present edition. The more recent advances in pulmonary and cardiac diseases in particular find special mention, and the newer

¹ "Taylor's Practice of Medicine", by E. P. Poulton, M.A., D.M., F.R.C.P., with the assistance of C. P. Symonds, M.A., D.M., F.R.C.P., H. W. Barber, M.A., M.B., F.R.C.P., R. D. Gillespie, M.D., F.R.C.P., D.P.M., N. H. Fairley, M.D., D.Sc., F.R.C.P., and W. M. Mollison, M.Ch., F.R.C.S.; Fifteenth Edition; 1936. London: J. and A. Churchill Limited. Royal 8vo, pp. 1152, with 71 plates (16 coloured) and 104 text-figures. Price: 28s. net.

work on blood is introduced into the haematological section, which, as before, is excellently illustrated. One point may be mentioned here. It is surely time that the definition of leucæmia was radically revised, so as to indicate that it is qualitative change in the leucocytes that is significant, and not the alterations in numbers.

Dr. Poulton's collaborators have again supported him well, and C. P. Symonds in the nervous diseases, H. W. Barber in dermatoses and R. D. Gillespie in mental diseases again are responsible for the sections mentioned. We are glad to see the name of N. Hamilton Fairley on the title page, and the section on diseases of the tropics has been practically re-written by him: it is a clear and authoritative account of the subject. An innovation is introduced in the shape of a section on diseases of the nose, throat and ear as they concern general medicine, and this useful chapter is well written by W. M. Mollison.

The latest "Taylor" is modern and comprehensive, is only some sixty pages longer than its predecessor, and may be recommended as an excellent and complete review of general medicine. We cannot help wondering whether it will be possible as years go on to include accounts of subjects ancillary to medicine in one text-book without sacrificing the purely medical subjects, that is, apart from specialties. However, there is not much related to general medicine that cannot be found within the covers of this book, and its printing and illustrations are of a standard that definitely enhances its value.

HOMEOPATHY.

DR. W. E. BOYD has written a small monograph on the low potencies of homeopathy.¹ He gives an account of the methods of preparation of homeopathic potency. Investigations were carried out on an insoluble metal, a salt, a simple organic substance, a radio-active salt and organic substances containing alkaloids. The author's conclusions are apparently satisfying to himself, but the general reader must cast aside his critical faculties and replace them with an abundant faith before he attaches credence to the assertions, that is, if he can follow the themes in the midst of all the verbiage and is not distracted by the involved sentences. Medical science will not be advanced by the booklet.

HISTORY OF TUBERCULOSIS.

To the interesting series of "Short Histories", published by John Bale, Sons and Danielsson, has been added "A Short History of Tuberculosis", by Dr. G. Norman Meachen.²

Those medical men who do not "want to date their medical knowledge of tuberculosis from Koch", to quote the words of Osler, should read this book, for in it they will find a succinct account of the progress made in the understanding of this disease from the earliest times down to the present day.

We find how early the term phthisis came into common use, for it is to Hippocrates we owe a name so familiar to us all.

Very little progress was made until we came to the end of the seventeenth century, when Richard Morton published the first book devoted to the study of the disease. His "Phthisiologia" is the first serious contribution by a British physician. He tells us that phthisis is "a malady which produces consumption of the whole body; it is accompanied by fever, and springs from a defective state of the lungs and from the resulting ulceration of pulmonary tissue". To the Frenchmen Bale and Laennec

¹ "Research on the Low Potencies of Homeopathy (an Account of Some Physical Properties Indicating Activity)", by W. E. Boyd, M.A., M.D.; 1936. London: William Heinemann (Medical Books) Limited. Crown 8vo, pp. 38, with illustrations. Price: 2s. 6d. net.

² "A Short History of Tuberculosis", by G. N. Meachen, M.D., B.S., M.R.C.P.; 1936. London: John Bale, Sons and Danielsson, Limited. Crown 8vo, pp. 112, with illustrations. Price: 3s. 6d. net.

we owe the next great advances, the former of whom gave us the name "tuberculosis" and the latter the stethoscope. To Villemin and his experiments we are indebted for the proof that tuberculosis is a specific infection, but the medical world had to wait until 1882, when Koch announced the discovery of the tubercle bacillus.

A chapter is devoted to the evolution of the treatment of tuberculosis in which we read how gradually the doctrine of fresh air won its way, and this great advance is mostly due to George Bodington. Bodington told the profession of his day that "the common hospital in a large town is the most unfit place imaginable for consumption". His teaching that "to live in and breathe freely the open air, without being deterred by the wind or weather, is an important and essential remedy in arresting its progress", brought about a great revolution in the treatment of the disease, and led to the establishment of the first sanatorium in 1859 at Goebersdorf, in Silesia. Koch and tuberculin are fully discussed and also collapse therapy, which we owe to the Italian, Forlanini, who, in 1906, published reports of thirty-six cases.

Non-pulmonary tuberculosis, diagnosis and the control of tuberculosis all have some space given to them, and if any criticism is to be levelled at this excellent book, it is that the author has endeavoured to compress too much information into his ninety pages, with the result that at times it becomes a list of names, dates and discoveries.

The book is illustrated with portraits of Bodington, Koch and Clemens von Pirquet, and reproductions of a picture of "Queen Mary Touching a Scrofulous Boy" and of the original stethoscope of Laennec.

OVULATION IN WOMEN.

THE NATIONAL COMMITTEE OF MATERNAL HEALTH, in its "Series of Medical Aspects of Human Fertility", has now produced "Time of Ovulation in Women",¹ by Hartman, with a foreword by Robert L. Dickinson.

The book is written to give the medical practitioner an idea of the present status of knowledge concerning time of ovulation, and a hope is expressed that the biologically trained layman might also read and profit by its contents.

The first nine chapters are devoted to a brief summary of pertinent physiology, and mention is made of some new theories, such as the heat-regulating function of the scrotum which prevents sterility of the sperms, and the theory of continuous reproduction of ova from the germinal epithelium. The last ten chapters are devoted to the presentation of evidence concerning time of ovulation.

Throughout the work comparison is made with experimental work on monkeys, in which the author has proved that ovulation occurs on a fixed day midway between menstrual periods. Evidence is forthcoming that intermenstrual bleeding or leucorrhœa is closely associated with ovulation, and that the estimation of circulating hormones is not very helpful owing to the difficulty of isolation and the possible changes they undergo within the body.

An interesting chapter is devoted to the experiments of Knaus, which depend on the inhibitory influence of the *corpus luteum* hormone on uterine contractions stimulated by pituitrin. Knaus himself was quite certain that his experiments fixed ovulation on the fourteenth day; but it appears to us that more work is necessary along these lines, as other investigators have not had such happy and uniform results.

A new method, the "electrical method" is described, which depends on photographing, as in an electrocardiogram, the differences of potential in the pelvis during ovulation. This appears very promising, but as yet no results have been published.

¹ "Time of Ovulation in Women: A Study on the Fertile Period in the Menstrual Cycle", by C. G. Hartman; 1936. London: Baillière, Tindall and Cox. Demy 8vo, pp. 236, with illustrations. Price: 13s. 6d. net.

Whilst admitting that gynaecologists cannot accurately judge the age of a *corpus luteum* found at operation, the evidence here seems to point to mid-interval as the time of ovulation. The flat vaginal cells devoid of leucocytes, which are found in vaginal smears of many animals during oestrus, have their counterparts in the vagina of many women about the mid-period. Similarly, about this time the uterine scrapings show the early action of the *corpus luteum* hormone on the glands of the mucous membrane; and, whilst this evidence is not conclusive, it is suggestive.

Apparently the bulwark of those who cry, "There is no safe period", lies in the vast number of women who assert that they have become pregnant following an isolated coitus. The evidence of these women seems to show that fertilization may follow coitus on any day before, during or after menstruation. The author, very rightly, we think, takes leave to doubt the memory and veracity of these women, and strongly urges that all women should keep an accurate calendar recording of their menstrual periods. Until such calendar methods are adopted no reliance can be placed on dates supplied nine months after coitus and last menstrual period have occurred.

An ingenious method of collecting human ova is described, and the few that have been examined appear to confirm the mid-period as the time of ovulation. In fact, all the evidence seems to point to mid-term as the time of ovulation in women, although there is not enough evidence to prove that ovulation cannot occur earlier than this. More investigation is necessary, though it would appear that there is a relatively safe period early and late in the interval.

The book is interesting and easy to read, and we are inclined to agree with the author's conclusions. Whilst not admitting it, the author has set up a shield against the furious bombardment that at present seems to be assailing the Ogino Knaus "safe period" theory.

THE PARATHYREOIDS.

THE first chapter of Shelling's monograph¹ deals with the history of the parathyroid glands, and in it the author points out that: "The discovery of the functions of the parathyroid glands differs from that of the other glands of internal secretion by the fact that whatever knowledge was gained as to their physiology originated not with the clinicians but with the experimental physiologists." Thus, as one would expect, physiological and biochemical considerations play an important part in the succeeding portions of the work.

The section on the anatomy of the parathyroids is enriched by reference to comparative anatomy. Contrary to expectation, one finds that the pathology of the glands, or glandules as the author frequently terms them, is described before their physiology is discussed. The parathyroid hormone, tetany and hypoparathyroidism, hyperparathyroidism and *osteitis fibrosa*, the relationship of the parathyroids to other glands of internal secretion, the relation of the parathyroids to vitamin D, and the use and misuse of the parathyroid hormone form the subjects of the remaining chapters. The subject matter of the book is followed by an appendix containing some very useful diet lists and food analysis.

An extensive bibliography follows each chapter, and it is of interest to Australians to note references to the work of Professor D. A. Welsh, Professor C. G. Lambie, Dr. R. F. Matters, Dr. F. S. Hansman and Dr. F. H. Wilson.

The monograph, as its title indicates, gives a comprehensive and useful account of the parathyroids in health and disease. Some of the charts are difficult for the uninitiated to follow. While the book will be of greatest value to the research worker, the clinician will find much information of use to him in his everyday work.

¹ "The Parathyroids in Health and in Disease", by D. H. Shelling, B.Sc., M.D.; 1935. St. Louis: The C. V. Mosby Company. Super royal 8vo, pp. 335, with illustrations. Price: \$5.00 net.

The Medical Journal of Australia

SATURDAY, JANUARY 16, 1937.

All articles submitted for publication in this journal should be typed with double or treble spacing. Carbon copies should not be sent. Authors are requested to avoid the use of abbreviations and not to underline either words or phrases.

References to articles and books should be carefully checked. In a reference the following information should be given without abbreviation: Initials of author, surname of author, full title of article, name of journal, volume, full date (month, day and year), number of the first page of the article. If a reference is made to an abstract of a paper, the name of the original journal, together with that of the journal in which the abstract has appeared, should be given with full date in each instance.

Authors who are not accustomed to preparing drawings or photographic prints for reproduction, are invited to seek the advice of the Editor.

POST-GRADUATE LECTURES AND OVERSEAS VISITORS.

POST-GRADUATE STUDY may take many forms. The medical practitioner who buys the latest book on diseases of the heart, on disorders of the digestive apparatus, of the central nervous system or what not (and reads it) is a post-graduate student. Members of the British Medical Association who attend Branch meetings, who discuss what they see and hear at such gatherings, and who follow it up in their reading, can also claim the title. It is not necessary to become enrolled as the member of a special post-graduate course, to pay a fee and to receive a card of admission to lectures to earn the title of post-graduate student. The time has long passed when medical practitioners need to be reminded that unless they follow up the teaching of their student days by systematic reading, they will be left in the backwash of mediocrity and will finally reach the stagnant and dark places where none will know them for what they were.

Post-graduate study is much more easily undertaken now than it was, say, twenty years ago.

Organizations that cater for the would-be student have sprung up in many centres. In every State there exists a committee that devotes its whole care and energy to the arrangement of regular and special courses in set subjects. Indeed, it may sometimes be said with truth that many a practitioner is hard put to it to find an excuse not to take part in arrangements that are made for him. Even this journal, covering as it does a whole range of subjects, practical and theoretical, in all the everyday and many of the unusual branches of medicine, is to a certain extent a post-graduate teaching medium.

The establishment of post-graduate committees and the provision of other facilities for study are a sign of the progress of medicine and of its widening extent; but this does not make the average practitioner any the less indebted to those who work continuously, and often at great personal inconvenience, as members of committees and other bodies. It is doubtful whether medical practitioners are sufficiently appreciative of what is done for them, not that members of post-graduate committees are looking for personal appreciation of their efforts. The best way in which appreciation can be shown is in the utilization of facilities for study. Many of the courses are fairly well attended, but the attendance is not what it should be—no practitioner, no matter how senior he may be or how recently he may have returned from a visit to medical centres abroad, should think it lowering to his dignity or his status to hear a brother practitioner expound a subject to which he has given special attention. Only those who are wise in their own conceits will adopt this attitude. What has occasioned most surprise is the smallness of the attendance at lectures by distinguished authorities from overseas. What would be a good attendance at a Branch meeting is an absurdly small gathering to greet so renowned a world authority as, say, Sir Robert Muir, who recently visited Sydney. To hear an exposition of even a well-worn subject by a world authority is a stimulating experience and one that should be seized upon eagerly by both general practitioners and specialists. Medicine is

associated with the lives of great men and with the words of great teachers. When great teachers visit the shores of Australia those who attend their lectures should be numbered by the hundred and not by the score.

Current Comment.

ETHER CONVULSIONS.

R. VAUGHAN PAYNE,¹ in a concise and informative article, points out that only in recent years has attention been drawn to the generalized convulsions which may occur in the course of ether anaesthesia. The condition is a serious one, for it is attended with a mortality rate of 22.2%, and its aetiology is still a matter for speculation. Unlike the common state known as "ether clonus", a trivial though annoying complication to anaesthetist and surgeon alike, ether convulsions arise always during deep anaesthesia, and death may take place on the operating table or hours later in the ward without any lessening of the spasms. In the ten-year period 1926-1936 no less than two hundred cases of the condition were reported; it is a strange circumstance that before that time no mention of the subject appears to have found its way into medical literature.

At present it seems unlikely that there is a common basic cause of the convulsions, but certain distinguishing features may be observed in any review of a series of cases. The patients, for instance, are almost always young—most of the recorded instances of the convulsions have affected children less than ten years old, though adults have, very rarely, been the sufferers. And the children concerned have been those in whom no previous history of disease attended with generalized spasms could be obtained. One may only hazard the guess that the seizures may be the sign of the effect of toxins upon the delicate and unstable nervous system of youth.

Payne has reviewed the histories of nine subjects of ether convulsions. Of the nine, four were suffering from acute inflammatory conditions at the time the ether was administered, and a more general survey of the literature shows that 90% of the patients were operated upon for the relief of some septic state. Sepsis would therefore seem to be an aetiological factor of the highest importance until we realize that, on the figures, the patients are apyrexial in 10% of cases. A very puzzling history is that of one child who, while afebrile, was given ether during the application of a plaster splint to a lower limb. Ether convulsions occurred during the administration of the anaesthetic, but the patient

happily recovered. Two days later the child's temperature rose, and the *os calcis* was explored for suspected osteomyelitis; but there were no convulsions either during or after the second administration of ether.

Naturally, the various methods of administering ether have been called into question as possible causative factors; all that can be said is that convulsions have followed ether given by all the accepted methods. But for some reason yet obscure, the attacks are not known to have followed ether administration when used to reinforce the action of the basal anaesthetics, "Nembutal", "Avertin" and "Evipan sodium". It has been said by some (Woolmer, Taylor, Wright) that the warming of ether is a practice not without its perils. The heated drug is less stable than when cold. Cases of convulsions have arisen during anaesthesia by the so-called "ether bomb" method, in which the vapour is superheated, and during administrations for which Shipway's apparatus was employed. Nevertheless, at Guy's Hospital, where the apparatus is a favourite instrument, cases of convulsions are extremely rare. It has been alleged also that the spasms arise more commonly during the warm months, and that the use of atropine, which lessens heat loss by abolishing sweating, may be attended with danger. But if these contentions are valid, why do not ether convulsions respond favourably to the methods applicable to the treatment of heat-stroke? One thing is certain: in practically all reported cases the patients were deeply "under" the anaesthetic when the convulsions began. The average time after induction at which the seizures commenced seems to be about thirty minutes.

Impurities may occur in ether during manufacture (water, acetone, alcohol and aldehydes amongst them) or during storage, when traces of ether peroxide and acetaldehyde are to be found; but the theory that these bodies are responsible for the convulsions falls to the ground when we realize that they are never present in more than trifling amount and that convulsions have arisen when the ether used was known to be of the purest. Careful examinations of the serum calcium and of the alkali reserve also prove that the condition cannot be related to the production of alkalosis from acapnia.

No matter what the cause of this serious complication of ether anaesthesia, its treatment is on well-defined lines. The administration must cease at the first sign of facial twitching, and free air entry be assured. The use of mixtures of carbon dioxide and oxygen has met with success, as have artificial respiration and the employment of the Drinker apparatus. The bromides and chloral have also proved useful agents, and the intravenous injection of "Evipan sodium" and "Nembutal sodium", though a warning is necessary that the latter drug cannot be given without danger to children. For young toxæmic patients, ether given by the "open" method seems to be the safest anaesthetic. Should convulsions occur and their treatment be successful, any

¹ Guy's Hospital Reports, October, 1936.

further anaesthesia should be maintained with nitrous oxide and oxygen. The continued use of ether is highly dangerous, and to employ chloroform is to court disaster.

When we consider the problems arising out of a consideration of ether convulsions we are driven to concur in the opinion expressed by Blomfield, who said recently: "This unfortunate phenomenon remains an unsolved problem for the anaesthetist."

GASTRIC DISORDERS.

RADIOLOGISTS on the medical staffs of large hospitals frequently comment on the low proportion of cases in which a definite gross lesion is found in the upper part of the alimentary tract by opaque meal examination. George B. Eusterman, in discussing the large proportion of cases in which no definitely abnormal radiographic finding is recorded, remarks that gross intrinsic lesions are distinctly in the minority as the cause of chronic recurrent gastric disturbances.¹ It is evident that these cases fall into two groups: those in which the cause of the digestive disturbance is actually within the stomach, even though it cannot be demonstrated by the radiologist, and those in which it is in some more distant organ or system. It must be admitted at once that the clinician's duty is to see that serious oesophageal, gastric or duodenal disease must first be excluded if possible. But it is none the less his duty to look carefully for a possible cause in other systems. The renal mechanism, the blood and the lungs claim a most careful examination; the need for this is emphasized by the aphorism quoted by Eusterman: "The stomach is the fire alarm box, the fire is somewhere else." Chronic nephritis is not always an easy disease to recognize; a chronic or insidious anaemia may simulate intrinsic gastric disease, as all know; and perhaps the radiologist could tell how often he discovers tuberculous disease of the lungs during his preliminary screening prior to examining the stomach. Patients suffering from various forms of cardiac disease not infrequently also seek advice on account of what they term indigestion. These reflex, toxic or nutritional forms of gastric disturbance due to remote disease constitute 15% to 20% of all cases of the digestive type coming to the radiologist, according to Eusterman, whereas the neuroses make up one-fourth of the total. We should have thought that the neuroses would be responsible for a greater number than this, but apparently in this series this was not the case. Disturbances due to remote disease in reality should not present great difficulty in diagnosis, for it is seldom indeed that the gastric symptoms are unique; Eusterman remarks that only on infrequent occasions in his series were such symptoms the sole expression of an extra gastric disorder.

Perhaps the most important groups remain still to be mentioned—those due to actual disease in the

stomach which gives no positive radiographic signs, and those due to other abdominal disease. Of the former, the various forms of gastritis are the most important. The modern work on the gastroscope and its diagnostic possibilities has been referred to in these pages not long ago. It is interesting that Schindler, of Chicago, took part in the discussion arising out of this paper, and naturally he laid some emphasis on the interpretation of the expression "a gross lesion" of the stomach, pointing out that carcinoma and ulcer should have no monopoly of the term. He mentioned such conditions as atrophic and hypertrophic ulcerative gastritis, and referred to the finding of Henning that the latter form of gastric inflammatory disease was common in tuberculosis. He also cited an interesting case of a patient who came complaining of gastric discomfort and demanding the performance of gastroscopy. Schindler refused at first, on account of the extreme hypochondria of the patient, but was eventually persuaded to make this special examination, when he found complete atrophy of the mucous membrane of the stomach. He asks the pertinent question: "What is the connexion?"

It certainly seems as though we must restore "gastritis" to its own diagnostic niche.

It is perhaps unnecessary to do more than refer briefly to those abdominal lesions which, though not involving the stomach in any definite pathological process, yet disturb its function. Gall-bladder disease is a familiar example; so too is the recurring type of appendicitis. Dwyer and Blackford's figures are quoted with reference to the appendix: they found that in a series of 3,000 cases a chronically diseased appendix was the cause of gastric symptoms in 5.5%. Hepatic and pancreatic disease are also mentioned, and the epigastric and diaphragmatic types of hernia. The last named is of immediate interest in view of the recent contribution on the subject made by Sir Thomas Dunhill.

The moral of this paper is evident: the patient has digestive symptoms; the radiologist reports that he can discover no organic lesion; nevertheless the problem is not solved by simply writing "functional dyspepsia" and prescribing alkalis and some bromide.

THE ADELAIDE CONGRESS: APPLICATION FOR MEMBERSHIP.

THOSE who wish to attend the fifth session of the Australasian Medical Congress (British Medical Association) to be held at Adelaide on August 23 to 28, 1937, are reminded that it will be necessary for them to complete an application form and forward it to the Honorary Local Secretary in the State in which they live. The application form was printed in THE MEDICAL JOURNAL OF AUSTRALIA ADVERTISER of January 9, 1937, at page vi. The application form should be accompanied by a cheque for two guineas. The Executive Committee hopes that those who have decided to attend the session will make application without delay, for in this way its work will be made easier.

¹ The Journal of the American Medical Association, October 31, 1936.

Abstracts from Current Medical Literature.

THERAPEUTICS.

Œstrin.

A. W. SPENCE (*The Lancet*, October 24, 1936) describes his observations on the use of œstrin in the treatment of toxic goitre. There is no doubt that the gonads are affected by the thyroid, but the evidence with regard to any effect on the thyroid due to gonad secretion is conflicting. After experiments on guinea-pigs the author concluded that œstrin had a slight antithyrotropic effect. In view of this he tried the effect of œstrin in large doses in patients with toxic goitre. Six women between the ages of twenty and fifty-six were treated by intramuscular injection of 50,000 international units of dihydroxyœstrin daily for twelve days in two cases and for twenty-one days in two other cases. Two patients received 250,000 international units of ketohydroxyœstrin daily for twenty-one days. The only toxic symptom was nausea in one case. There was little effect to be noted in the clinical condition of the patients, and that effect could have been due to rest alone; however, a decrease of nervousness and in the pulse rate and a gain in weight were noted in some patients. There was no great fall in the basal metabolic rate.

Parenteral Administration of Vitamin B₁.

W. R. RUSSELL (*Edinburgh Medical Journal*, May, 1936) states that the recent preparation of extracts of vitamin B₁ suitable for parenteral administration has provided a method, as yet little explored, for the treatment of polyneuritis and other symptoms due to the avitaminosis. The instability of this vitamin and pathological states of the gastro-intestinal tract render the oral administration uncertain. Experimentally, animals suffering from the effects of a diet deficient in vitamin B₁ are very largely restored to a normal state within a few hours of an injection of the vitamin. Five case histories are presented to show the beneficial effects of the treatment; three patients were suffering from subacute combined degeneration of the cord, one from chronic progressive polyneuritis, and one from alcoholic neuritis. It is obvious that any rapid improvement following an injection of the vitamin can occur only if the damage to the cord or nerve is slight and therefore easily reversible. Peripheral nerves which are much degenerated can, of course, recover their function only slowly, probably by a process of regeneration. Shrinkage to the periphery of the area of sensory loss is an indication of recovery and

presumably this is due to the fact that the nerves to the proximal parts of the extremities, being shorter, are least damaged and therefore capable of a more rapid recovery. In some cases of subacute combined degeneration of the cord considerable degeneration of peripheral nerves occurs; the stocking type of sensory loss in two of the cases recorded suggests that peripheral nerve degeneration was responsible for the motor and sensory disturbances. The giving of vitamin B₁ by injection in these cases was quickly followed by shrinkage towards the periphery of the area of sensory loss. It is pointed out that, although the initial improvement following the therapy is rapid, subsequent progress in severe cases must necessarily be slow. The need for maintaining the supply of vitamin may, however, be no less important in the late than in the early stages of recovery. Patients suffering from anorexia have been treated with similar injections with apparently good results.

Adrenaline.

N. A. NIELSON (*The Lancet*, October 10, 1936) discusses the treatment of asthmatic attacks by the inhalation of adrenaline. Adrenaline injected subcutaneously causes anaemia of the bronchial mucosa, and endobronchial application has the same effect. The latter method is too inconvenient for use in the treatment of asthma, and simple inhalation has not been very effective. The author, at a medical clinic at the University of Copenhagen, has employed stronger solutions. The solutions are sprayed from a nebulizer or "Triplex" spray into the mouth and inhaled vigorously throughout the inspiratory phase. The solution used is adrenaline 1.0 grammie, chlorbutal 0.09 grammie, hydrochloric acid (2 N) 2.8 cubic centimetres, sodium bisulphite 0.01 grammie, sterile distilled water to 10 cubic centimetres. It is estimated that at each pressure of the bulb of the atomizer 0.5 milligramme of adrenaline is expelled, and calculations show that the dose administered varies between 0.6 and 0.75 milligramme. This is a 10% solution. Forty patients were treated, one being treated by this method in 250 attacks. All patients except one obtained relief, usually within half a minute. There were no ill-effects and no sensitivity developed. The effects lasted for a varying time; in some patients in the *status asthmaticus* it lasted usually for more than an hour, but in one patient for only ten minutes. This method has been found effective when adrenaline given subcutaneously has brought no relief. One patient inhaled 1.0 milligramme of adrenaline twelve times at intervals of an hour without inconvenience; two others received about 0.5 milligramme four times at intervals of five minutes without distress. The favourable effect is thought to be due to the local action of adrenaline on the bronchial mucosa.

NEUROLOGY AND PSYCHIATRY.

Antiretentional Therapy in Convulsive States and Migraine.

On the assumption of intracranial liquid accumulation in association with general retentions throughout the body as the common pathogenic basis of the convulsive states and migraine, Eugene Földes (*The American Journal of Psychiatry*, May, 1936) has developed an antiretentional dietetic therapy for these conditions. The most important features of the antiretentional diet are as follows: It is rich in protein, aiming at the utilization of their diuretic action. The amount of protein administered is from approximately 1.5 to 1.8 grammes per kilogram ideal weight. The proteins administered consist to a large extent of meats, and, particularly in the initial stages of the therapy, of substances rich in nucleo-proteins, such as liver, kidney, sweetbread, sardines *et cetera*. Among the restrictions in the diet, one of the most important is that of the carbohydrates. Treatment is begun with the administration of approximately 2.5 grammes of carbohydrates per kilogram ideal weight, and later this quantity is gradually increased to the level necessary to maintain the body weight. The intake of fats is restricted to a fixed amount of from forty to fifty grammes daily, irrespective of the body weight. Severe restriction of the sodium chloride intake was not found necessary. The amount of fluid usually administered varied between one and one and a half litres, including the fluid content of the fruit. In addition to the diet, phenobarbital was administered to all patients with epilepsy and to such patients with migraine as showed symptoms of nervous irritability or insomnia. In the choice of phenobarbital as a sedative consideration was given to its stabilizing effects on the water and mineral metabolism, it having been shown that in certain circumstances it may prevent retention of liquids. The administration of small doses of atropine sulphate was found to be a valuable adjunct to the antiretentional diet. In epilepsy a response to the therapy was manifested in all cases. It consisted either of the complete disappearance of all attacks or in a decrease in the frequency and severity of the paroxysms, so that sometimes the *grand mal* attacks did not recur and only the *petit mal* attacks persisted. The improvement following the therapy in migraine was shown in the disappearance of all symptoms in a number of cases. In others there was a definite decrease either in the severity or in the frequency of the attacks, or in both. The improvement followed the therapy with such rapidity and regularity that it was comparable with that obtained with specific forms of therapy. Consequently the author suggests that it will be possible to use the antiretentional therapy as a therapeutic test in the

differential diagnosis of migraine. In one case which resembled migraine in its manifestations, but which did not respond to the therapy, further investigations disclosed that, in fact, the headaches were due to nasal polyp.

Treatment of Epidemic Encephalitis.

R. L. JENKINS AND C. C. ROWLEY (*The Journal of Nervous and Mental Disease*, November, 1936) endeavoured to confirm the findings of Hill and Clerici, who had reported favourably on bulbocapnine as a means of controlling the emotional outbursts of children afflicted with chronic epidemic encephalitis. The effect of the administration of bulbocapnine on the behaviour of nine adolescent boys subject to the behaviour disorders characteristic of chronic epidemic encephalitis was observed under controlled conditions. In five cases there was a history of an acute illness which was diagnosed as epidemic encephalitis. In two cases there was a history of an acute illness which, in the light of the present findings, may be fairly diagnosed in retrospect as epidemic encephalitis; and in two cases there was no evidence in favour of the diagnosis other than the characteristic behaviour syndrome. The bulbocapnine was administered as a routine, orally or hypodermically, three times daily after meals, in doses of 0.1 and 0.2 gramme. Careful comparison of daily records of the behaviour kept by physician and attendant failed to reveal evidence that bulbocapnine was of value as administered to these boys.

"Gravidan" Therapy in Psychiatry.

THE satisfactory results obtained by Russian workers who have employed intramuscular injections of "Gravidan" (sterilized and filtered urine of pregnant women) in the treatment of acute and chronic infectious diseases, suggested to F. K. Gökay (*Psychiatrisch-neurologische Wochenschrift*, August 22, 1936) its application to the treatment of schizophrenia. Eighteen psychiatric patients (seven males and eleven females) received intramuscular injections of "Gravidan" twice weekly, the dosage being such that the pyrexia following injection did not rise above 37.5° C. Summarizing his findings, the author states that in the male group of cases a fair remission was obtained, while in the female group the treatment of those psychoses with a basis of endocrine dysfunction gave results approaching cure.

Prognosis in Intermediate Psychoses.

R. C. HUNT AND K. E. APPEL (*The American Journal of Psychiatry*, September, 1936) discuss the question of prognosis in those psychoses which present an almost equal mixture of schizophrenic and manic-depressive reactions. Thirty such cases were studied, each patient being followed up for at least four years following admission to hospital. Of these

patients, 11 (36.7%) recovered and remained well, 6 (20%) recovered and had one recurrence followed by recovery, 3 (10%) recovered but had two or more recurrences, and 10 (33.3%) were unrecovered, never having a remission, for the most part going on to definite schizophrenia. The recovery rate is thus roughly twice as good as it is said to be in schizophrenia, and from 25% to 50% poorer than that found in pure manic-depressive psychosis. The outstanding factors common to the group as a whole were early age of onset, neurotic heredity, mixed cycloid and schizoid personality traits, a rather high incidence of somatic factors in the illness, a serious precipitating factor in over half, and a high incidence of persecutory trend, somatic preoccupation and hallucinations. The recovery group was particularly characterized by a worse heredity than the unrecovered, more specific schizoid traits in the prepsychotic personality, but a better total personality adjustment, relief of the precipitating situation in the majority of cases, a manic or mixed type of reaction, adequacy and appropriateness of the affect, and confusion in the majority. The unrecovered group was particularly characterized by a predominantly introverted, unsuccessful prepsychotic personality, lack of any relief from the precipitating situation, a depressive reaction in the majority, an effect that was inadequate and inappropriate in over half, and a clear sensorium in the majority. The authors point out the need for more extensive studies in order to render diagnosis and prognosis in this mixed group easier and more reliable.

Heat Regulation in Dementia Praecox.

I. FINKELMAN AND W. M. STEPHENS (*The Journal of Neurology and Psychopathology*, April, 1936) investigated the reactions to extreme cold of a group of fifty female patients with hebephrenic dementia praecox. The oxygen consumption rates, temperature readings, blood sugar determinations and pulse, respirations, shivering and other responses were noted before exposure, during exposure to water at 15.5° C. (60° F.) for fifteen to twenty minutes, and during rest in bed forty-five minutes to one hour after the bath. These reactions were compared with those observed in twenty-six healthy non-psychotic subjects and in a group of twelve chronic encephalitics exposed to the same experimental conditions. The patients with dementia praecox reacted to cold as a group with a lower heat production than the normals. Of the patients with dementia praecox, 56% reacted to cold with an increase in oxygen consumption rate between 10% and 40%, whereas 50% of the non-psychotic controls were grouped between 33% and 65%. The drop in temperature in the schizophrenics was greater than in the normal—the median temperature change on exposure to cold in the

schizophrenic group was 0.4° C. (0.8° F.) as compared with a median change of 0.1° C. (0.2° F.) in the normals. Some of the non-psychotic subjects maintained their metabolic stimulation for some time following exposure. This continued increased metabolic response was not found in schizophrenia. In the normal subjects there occurred a reactive hyperaemia, as evidenced by a drop in the inner temperature after emerging from the cold bath into warm surroundings. The inner temperature drops, the heat being conducted to the cooled body surface. This "after-effect" did not occur in dementia praecox as a group. The schizophrenics did not exhibit any respiratory shock on immersion in cold water, as a rule. This transient respiratory phenomenon was observed in most of the normal subjects. In schizophrenia there was an absence of, or a very slight, shivering response. Many of the non-psychotic controls shivered, and some very intensely. There was no significant change in the blood sugar level in any of the groups, indicating that adrenaline, at least in human subjects, does not play a rôle as a calorogenic agent on exposure to cold. Many of the reactions were similar in schizophrenia and in post-encephalitic Parkinsonism. The authors conclude that their findings, correlated with other evidence, point to the existence of a physiological disturbance in the hypothalamus in schizophrenia.

Nervous Disturbances in Agranulocytosis.

A. SANGELÜDDEKE (*Psychiatrisch-neurologische Wochenschrift*, July 11, 1936) reviews the nervous and mental changes associated with agranulocytosis. Neurological symptoms are only exceptionally reported in the literature. Abnormalities of the reflexes (diminution or inequality) have been observed. Kohn observed neck stiffness and a positive Kernig's sign with normal cerebro-spinal fluid. Mental phenomena are, on the other hand, often noted. The author suggests that they are probably still more frequent than the literature indicates, as they are to some extent taken for granted by the observers and are not specially reported. This applied particularly to the languor, apathy and all grades of clouding of consciousness, from mild stupor to coma. A striking euphoria is sometimes observed, which, in the event of an unfavourable outcome, is succeeded by stupor. Pathological excitement and motor unrest are more rarely manifested. Delirious states have been reported. One patient developed a psychosis which required institutional care. The psychosis corresponded in every respect to the recognized picture of a psychosis associated with somatic disease. It was probably dependent, as were also the psychotic phenomena observed in the other cases, on the presence of tonic products of metabolism.

British Medical Association News.

ANNUAL MEETING.

THE annual general meeting of the Victorian Branch of the British Medical Association and of the Medical Society of Victoria was held at the Medical Society Hall, East Melbourne, on December 2, 1936, Dr. WALTER SUMMONS, the President, in the chair.

ELECTION OF OFFICE-BEARERS AND MEMBERS OF COUNCIL.

The President announced that the Council had elected the following office-bearers:

President: Professor R. Marshall Allan.
Senior Vice-President: Dr. J. P. Major.
Junior Vice-President: Sir Alan Newton.
Chairman of Council: Dr. J. Newman Morris.
Honorary Treasurer: Dr. C. H. Mollison.
Honorary Secretary: Dr. F. Kingsley Norris.
Honorary Librarian: Dr. R. H. Fetherston.

The President announced that the following had been elected members of the Council by the general body of the members: Professor R. Marshall Allan, Dr. H. C. Colville, Dr. R. M. Downes, Dr. D. M. Embelton, Dr. Mark Gardner, Dr. J. S. Green, Dr. V. Hurley, Dr. L. S. Latham, Sir Alan Newton, Dr. F. Kingsley Norris, Dr. D. Roseby, Dr. H. Douglas Stephens, Dr. B. M. Sutherland, Dr. B. T. Zwar.

The President announced that the following had been elected by the subdivisions: Dr. F. J. Bonnin, Dr. W. F. Brownell, Dr. J. A. Cahill, Dr. A. E. Coates, Dr. R. L. Fulton, Dr. H. Boyd Graham, Dr. J. J. Kelly, Dr. J. Le M. Kneebone, Dr. C. M. Ley, Dr. J. P. Major, Dr. F. E. McAree, Dr. D. W. Neville, Dr. S. J. Newing, Dr. D. C. Pigdon, Dr. T. O. Sayle, Dr. W. A. Spring, Dr. Walter Summons, Dr. S. F. Sutherland.

The President announced that Dr. F. L. Davies, Dr. R. H. Fetherston, Dr. C. H. Mollison and Dr. J. Newman Morris were the *ex officio* members of the Council.

The representative of the Victorian Medical Women's Society was Dr. Jane S. Greig.

The President announced that the following had been coopted as members of the Council: Sir Hugh Devine, Dr. John Dale and Dr. Kenneth Smith.

ANNUAL REPORT OF THE COUNCIL.

On the motion of Sir James Barrett, seconded by Dr. Felix Meyer, the report of the Council, which had been circulated among members, was taken as read and adopted. The report is as follows:

The Council of the Branch and the Committee of the Society present the fifty-seventh annual report of the Branch and the eighty-first of the Society.

Elect.

At the annual meeting held last December, the following members of the Council and of the Committee were elected: Professor R. Marshall Allan, Dr. H. C. Colville, Dr. John Dale, Dr. A. P. Derham, Major-General R. M. Downes, Dr. D. M. Embelton, Dr. Mark Gardner, Dr. J. S. Green, Dr. Victor Hurley, Dr. L. S. Latham, Dr. F. Kingsley Norris, Dr. H. Douglas Stephens, Dr. B. M. Sutherland, Dr. B. T. Zwar.

The following were elected to represent the subdivisions: Dr. F. J. Bonnin, Dr. W. F. Brownell, Dr. J. A. Cahill, Dr. A. E. Coates, Dr. R. L. Fulton, Dr. O. B. Goyen, Dr. H. Boyd Graham, Dr. J. J. Kelly, Dr. J. Le M. Kneebone, Dr. J. P. Major, Dr. F. E. McAree, Dr. D. W. Neville, Dr. S. J. Newing, Dr. D. C. Pigdon, Dr. T. O. Sayle, Dr. W. A. Spring, Dr. Walter Summons, Dr. S. F. Sutherland.

The Council, under Rule 8, coopted Sir Alan Newton, Dr. D. Roseby and Dr. Gerald Weigall and elected Dr. Jane S. Greig, nominated by the Victorian Medical Women's Society.

The Trustees of the Medical Society of Victoria are *ex officio* members: Dr. F. L. Davies, Dr. R. H. Fetherston, Dr. C. H. Mollison, Dr. J. Newman Morris.

The Council elected the following office-bearers:

President: Dr. Walter Summons.

Vice-Presidents: Professor R. Marshall Allan, Dr. J. P. Major.

Honorary Secretary: Dr. F. Kingsley Norris.

Honorary Treasurer: Dr. C. H. Mollison.

Chairman of Council: Dr. J. Newman Morris.

Honorary Librarian: Dr. R. H. Fetherston.

The Executive consisted of the President, with other office-bearers, and the immediate Past-President, Major-General R. M. Downes.

Attendances at Council Meetings.

Twelve ordinary meetings and one special meeting of the Council were held. The following shows the attendances:

Dr. H. B. Graham	13	Dr. M. Gardner	9
Dr. Jane Greig	13	Dr. L. S. Latham	9
Dr. C. H. Mollison	13	Dr. T. O. Sayle	9
Dr. F. Kingsley Norris	13	Dr. D. M. Embelton	8
Dr. W. Summons	13	Dr. F. E. McAree ¹	8
Dr. J. A. Cahill	12	Dr. D. C. Pigdon	8
Dr. H. C. Colville	12	Dr. B. T. Zwar	8
Dr. D. Roseby	12	Dr. W. F. Brownell	7
Dr. B. M. Sutherland	12	Maj.-Gen. R. M. Downes ²	7
Prof. R. Marshall Allan ³	11	Dr. J. S. Green	7
Dr. A. E. Coates	11	Sir A. Newton	6
Dr. F. L. Davies ¹	11	Dr. S. F. Sutherland	6
Dr. R. H. Fetherston	11	Dr. R. L. Fulton	5
Dr. J. P. Major	11	Dr. J. J. Kelly	5
Dr. J. Newman Morris ¹	11	Dr. S. J. Newing	5
Dr. G. Weigall	11	Dr. D. W. Neville	3
Dr. V. Hurley	10	Dr. J. Le M. Kneebone	2
Dr. H. Douglas Stephens	10	Dr. F. J. Bonnin	0
Dr. John Dale	9	Dr. O. B. Goyen	0
Dr. A. P. Derham	9	Dr. W. A. Spring	0

The average attendance at each meeting was 26 and the highest attendance for any one meeting was 31.

Appointment of Subcommittees.

The following subcommittees were appointed by the Council (the first-named acting as convenor of that subcommittee):

Ethics.—Dr. Major, Dr. Davies, Dr. Fetherston, Dr. Latham, Dr. Pigdon, Dr. B. M. Sutherland, Dr. Weigall, Dr. Zwar and Executive.

Finance, House and Library.—Dr. Mollison, Dr. Fetherston, Dr. Major.

Legislative.—Dr. Colville, Professor Allan, Dr. Coates, Dr. Davies, Dr. Green, Dr. Morris, Dr. Newing, Dr. Norris, Dr. Roseby.

Organization.—Dr. Roseby, Dr. Brownell, Dr. Cahill, Dr. Gardner, Dr. Graham, Dr. Green, Dr. Greig, Dr. McAree, Dr. Major, Dr. Newing, Dr. Pigdon, Dr. Sayle, Dr. Summons, Dr. B. M. Sutherland, Dr. Weigall, and representatives of country subdivisions.

Science.—Dr. Coates, Dr. Colville, Major-General Downes, Dr. Graham, Dr. Hurley, Dr. McAree, Sir A. Newton, Dr. Norris, Dr. Stephens.

Hospital.—Dr. Embelton, Professor Allan, Dr. Gardner, Dr. Coates, Dr. Derham, Dr. Graham, Dr. Hurley, Dr. Latham, Dr. Morris, Dr. Neville, Sir A. Newton, Dr. Zwar.

Correspondence.—Dr. Norris and Dr. Morris.

Social.—Dr. Roseby and Dr. McAree.

¹ Ill or out of State during portion of year.

Special Standing Committees.

Standing Insurance.—Dr. Embelton, Dr. Davies, Dr. Hurley, Dr. Major, Dr. Mollison, Dr. McPhee.

Early Medical History.—Dr. Black, Dr. Fetherston, Dr. Kenny, Dr. Meyer, Dr. Norris, Dr. Shaw, Dr. A. J. Wood.

Yallourn.—Dr. Davies, Dr. Major, Dr. Morris, Dr. Robertson, Dr. B. M. Sutherland, Dr. Weigall, Dr. B. T. Zwar and the Medical Secretary *ex officio*.

Appointments and Nominations.

President, British Medical Association, 1935-1936.—Sir James W. Barrett.

Central Council, British Medical Association.—Sir Thomas Dunhill.

Federal Council.—Dr. Davies and Dr. Morris.

Victorian Bush Nursing Association.—Dr. Graham and Dr. B. M. Sutherland.

Hospital Benefits Association.—Dr. Cahill, Dr. Dickson, Dr. Norris, Dr. Roseby.

City Electoral Roll.—Dr. Hurley, Dr. Major and Medical Secretary.

Seventh Australian Cancer Conference.—Dr. Thos. Cherry.

Annual Meeting, British Medical Association, Oxford, 1936.—Representative, Victorian Branch, Dr. L. Mitchell; Deputy Representative, Dr. Douglas Thomas; Delegates, Dr. Hedley Summons, Dr. G. Newman Morris.

Australasian Medical Congress, British Medical Association, Adelaide, August 23-28, 1937.—Honorary Local General Secretary, Dr. F. Kingsley Norris.

Australian and New Zealand Association for the Advancement of Science (Council, Auckland Meeting, 1937).—Dr. F. M. Burnet, Dr. B. L. Stanton.

Standing Appointments.

Trustees of the Medical Society of Victoria.—Dr. Davies, Dr. Fetherston, Dr. Mollison and Dr. Morris.

Medical Eye Service of Victoria.—Dr. Gardner.

The Advisory Committee to the Charities Board.—Dr. Hurley, Dr. Embelton, Dr. Latham, Dr. Morris, Dr. McPhee, Dr. Zwar.

Victorian Correspondent, "The British Medical Journal".—Dr. Graham.

Victorian Correspondent, "The Medical Journal of Australia".—Dr. Graham.

British Medical Agency Company of Victoria, Proprietary, Limited.—Directors, Dr. Mollison (Chairman) and Dr. Fetherston; Managing Director, Mr. W. Ramsay.

British Medical Insurance Company of Victoria.—Directors, Dr. Mollison (Chairman), Dr. Fetherston, Dr. Hurley, Dr. Morris, Dr. Norris; Secretary, Mr. J. M. Ford.

Masseurs' Registration Board.—Dr. D. O. Brown, Major-General Downes, Dr. R. F. May.

Free Kindergarten Union.—Dr. Weigall.

Victorian Baby Health Centres' Association.—Dr. Derham.

Melbourne University Association.—Dr. Stephens.

Victorian Institute of Hospital Almoners.—Dr. Morris.

Lord Mayor's Fund.—Dr. Morris.

Medical Advisory Committee, Education Department.—Dr. Zwar.

Victorian Council for Mental Hygiene.—Dr. Dale and Dr. Derham.

Melbourne Permanent Post-Graduate Committee.—Dr. Coates, Dr. Major and Dr. B. M. Sutherland.

Big Brother Movement.—Dr. Weigall.

The Society for Health of Women and Children.—Dr. B. L. Stanton.

Medical Officers' Relief Fund, Advisory Committee.—Dr. Mollison, Dr. Davies and Dr. Upjohn.

Australian Aerial Medical Services.—The President.

Nurses' Board.—Dr. R. W. Chambers.

Dietetic Association of Victoria.—Dr. Dale.

Society for Crippled Children.—Dr. Norris.

Membership Roll.

The number of members on the roll is 1,363, which is 33 more than that of last year; 103 names were added (56 by election, 23 who paid arrears and 24 by transfer into the Branch); 70 were removed (12 by death, 10 by resignation, 25 by transfer out of the Branch, and 23 who allowed their subscriptions to fall into arrears).

Five Associates have been added to the list, and one removed by death, making a total of 35.

Honorary Student Associates number 38.

Death of the following members and an associate is recorded with regret: Dr. N. C. Barber, Dr. D. S. Coto, Dr. T. B. Kerr, Dr. H. Lawrence, Dr. F. S. Jermaine Lulham, Dr. D. F. MacGillivray, Dr. C. E. Marsden, Dr. M. M. Perl, Dr. H. Pern, Dr. J. Rosenthal, Dr. D. E. Stewart, Dr. E. A. Strahan, Dr. W. G. H. Tregear.

Death of His Majesty King George V.

At its meeting on January 22 the Council resolved:

The Council of the British Medical Association (Victorian Branch) receives with extreme sorrow intelligence of the death of His Most Gracious Majesty King George V, and requests that the Honourable the Premier convey through His Excellency the Governor the Branch's deepest sympathy to His Majesty the King, Her Majesty the Queen and members of the Royal family and its unswerving allegiance to His Majesty King Edward VIII.

And the following cable was transmitted to the British Medical Association, London:

Council Victorian Branch recorded with extreme sorrow intelligence of the death of Association's Patron, His Most Gracious Majesty King George V, and join with parent body in extending deepest sympathy to His Majesty the King, Her Majesty the Queen and members of the Royal Family, and unswerving allegiance to His Majesty King Edward VIII.

Reports of Subcommittees.*Ethics Subcommittee.*

The subcommittee met twelve times and the following were the attendances:

Dr. Major	11	Professor Allan	8
Dr. Norris	11	Major-General Downes	6
Dr. Summons	11	Dr. Latham	6
Dr. Davies	10	Dr. Pigdon	6
Dr. Morris	10	Dr. Zwar	6
Dr. Weigall	10	Dr. B. M. Sutherland	5
Dr. Fetherston	9	Dr. Mollison	0

Following the commencement of practice by a *locum tenens* in a town where he had acted for the executors of a deceased member, it was found that the existing safeguards of doctors employing locums are inadequate, and action is being taken to strengthen them.

The question of the meaning of the word "unqualified" in the ethical principle relating to the administration of anaesthetics for unqualified persons has been considered and a new principle clarifying the meaning will be submitted for the approval of the Branch in 1937.

The president of a country hospital insisted that the honorary medical officer should disclose to him the nature of a patient's complaint before receiving permission to engage an anaesthetist from another town. Following representations and an interview with the hospital committee the attitude was not persisted in.

Several cases of false and careless certification were considered during the year, and a circular dealing with this important question has been sent to all members of the Branch.

The ethical position of doctors acting for insurance companies in workers' compensation cases has been considered and members informed by circular of the position.

Council recommendations regarding the conduct of "holiday consultations" will in future be circulated annually.

Organization Subcommittee.

The subcommittee met twelve times. The following were the attendances:

Dr. Roseby	12	Dr. Weigall	7
Dr. Summons	12	Dr. Gardner	4
Dr. Brownell	11	Dr. Newing	4
Dr. Greig	11	Dr. Green	2
Dr. Graham	10	Dr. Sayle	2
Dr. Cahill	9	Dr. Major	1
Dr. B. M. Sutherland	8	Dr. Neville	1
Dr. McAree	7	Dr. Pigdon	1

An important step was taken during the year in establishing a standing consultative committee of representatives of friendly societies and the Branch. Matters affecting lodge practice will be dealt with by this committee and arrangements have been made to hold the first meeting in the near future. One of the first items for discussion will be the alteration of Clause 1 of the agreement, which debars the lodge practitioner from claiming fees under the *Workers' Compensation Act* for non-surgical treatment of injured lodge patients.

It was found that one lodge had made agreements for the treatment of "junior" members at a remuneration of 4s. *per annum*. The rate was not approved and all such agreements have now been terminated.

A member was informed that catheterization, gastric lavage, urine and blood examinations were services coming under the terms of the Wasley Award and could not be charged for.

The grand lodge of one society consented to discuss conditions of specialist service to its members and the group of specialists concerned met and drew up fee schedules, but no finality has been reached.

The Brunswick Returned Soldiers' Medical Society has been registered and accepted as a friendly society, whose members are entitled to service under the terms of the Wasley Award.

Following the complaint of a member that a lodge, without reference to him, had obtained a second doctor's opinion of a patient's condition, it was agreed that, while the lodge has a right to protect its funds by having a consultation, the patient's regular medical attendant has the right to be present at the examination and receive a consultation fee of 10s. 6d.

Approval was given to the Articles of Association of the Medical Eye Service of Victoria, and the service was opened on July 1. It is hoped that the establishment of facilities will enable many patients now attending public hospitals to make provision for themselves and not be dependent on charity. Dr. Mark Gardner has represented the Council on the Committee of the Service and acted as chairman during the absence of Sir James Barrett.

Members have been asked to discontinue honorary service to sporting bodies, and payment is now made for all medical services to league football clubs.

Following representations from those members engaged in the private practice of clinical pathology, a new scale of fees for pathological work has been approved and circulated to members.

Repeated representations have been made to the Government for the restoration of salaries of doctors attending children under the care of the Children's Welfare Department and it is probable that the restoration will shortly be made.

It was agreed that a fee of five shillings per visit should be accepted for medical service to members of the Victorian League of Old Age Pensioners subject to visits being authorized by one of the league's executive officers.

A member reported that the authorities of a prominent girls' school had offered to collect an account for medical service to a pupil, deducting 10% commission. Strong exception was taken to such a proposal and a protest has been made.

An attempt by the local committee of a baby health centre to extend the activities of the centre to provide post-natal care was abandoned following representations to the Baby Health Centres' Association.

At the request of the Public Medical Officers' Association a classification and schedule of salaries has been drawn up and will be submitted to the Government next year.

The managers of secondary schools have been informed that the Branch Council considers that the duties of a school medical officer should be limited to first aid in cases of emergency *et cetera*, and in all cases, wherever possible, the family medical attendant should be called in.

Hospital Subcommittee.

The subcommittee met twelve times and the following were the attendances:

Professor Allan	11	Dr. Hurley	5
Dr. Graham	11	Dr. Zwar	5
Dr. Coates	10	Dr. Latham	3
Dr. Morris	10	Dr. Neville	3
Dr. Embelton	9	Dr. Gardner	2
Dr. Derham	6	Sir A. Newton	0

The Charities Board has been approached requesting alteration of Regulation 6 (n) of the *Hospitals and Charities Act*, which debars any honorary medical officer from accepting fees for his services in a public hospital. The necessity for the alteration has arisen from the passing of the *Workers' Compensation Act* and the establishment of staff funds.

As the provision of medical service to cases of infectious disease, treated in country hospitals, is a municipal responsibility, members giving honorary service to such cases have been circularized and asked for their opinion of proposals designed to insure that the municipalities meet their obligations.

Cases of alleged hospital abuse have been investigated and referred to the Charities Board or the committee of the hospital concerned.

A suggestion by a country hospital that a medical student be employed as a clinical clerk, as no resident medical officers were available, was opposed.

As a result of action by the Charities Board, following representations from the Branch, all agreements between public hospitals and firms, sporting bodies *et cetera*, for the treatment of employees in return for donations, will, it is expected, be terminated at the end of this year.

Perturbed at the Government's proposals to increase the bed accommodation in public hospitals, a deputation of the Council waited on the Premier on May 11 and suggested the establishment of a compulsory contributory scheme as a step towards a complete scheme of national health insurance.

Protest was made to the Chief Secretary against the utilization of charitable hospitals for the treatment of cases for which Government should be financially responsible.

After long investigation and discussion of the out-patient problem, a conference with committees of public hospitals was convened. A subcommittee of that conference has been appointed and it is hoped that the result will be at least a partial solution of a problem which has been discussed for many years.

The Hospital Benefits Association of Victoria is gradually increasing its membership, which is now 20,000. £175 of £1,175 advanced by the British Medical Insurance Company has been returned, interest to date has been paid, and to June 30, 1936, £171 had been paid to medical staff funds of public hospitals.

Legislative Subcommittee.

The subcommittee met ten times and the following were the attendances:

Dr. Colville	10	Dr. Davies	6
Dr. Norris	10	Dr. Morris	5
Professor Allan	7	Dr. Green	4
Dr. Coates	7	Dr. Newing	1
Dr. Roseby	7		

Provision for the admission of fifth and sixth year medical students as honorary student associates has been made and already thirty-three students have been so admitted.

The Federal Council asked for views on the advisability of federal medical registration and was informed that it is desirable that uniform procedure of medical registration and deregistration should be adopted in each State and that this would be best achieved by the assignment of State powers to the Commonwealth.

During the year a complete revision of the rules of the branch has been undertaken and it is hoped to submit the revised rules for adoption in 1937.

A third party (motor insurance) bill has been before Parliament and suggested amendments were submitted to the Ministry, but it appears that the bill will not be proceeded with this session.

Finance, House and Library Subcommittee.

The subcommittee met ten times and the following were the attendances:

Dr. Fetherston	10
Dr. Mollison	10
Dr. Major	8

Arrangements have been made to erect honour boards bearing the names of past presidents.

A brass tablet to the memory of George Bass, Surgeon, His Majesty's ship *Reliance*, has been placed in the foyer and was unveiled on October 14 by Professor Ernest Scott, who delivered a most interesting address on the life of Bass.

The balance sheets of the Branch and of the Medical Society of Victoria will be presented to the monthly Branch meeting in February next year.

The following gifts are acknowledged and the donors thanked: A portrait of the late Mr. Hamilton Russell by Miss Aileen Dent, presented by Dr. A. E. Rowden White; a set of Jacob's "Dermachromes" and a model ear, presented by Miss Macaulay; books from the library of the late Dr. Lulham, presented by the Executors; a calico sign used on the goldfields by the late Dr. Tracy and the first balance sheet of the Women's Hospital, presented by Mrs. D'Ebro; photographs of the "Flying Doctor's" activities, presented by Australian Aerial Medical Services; books from the library of the late Dr. Bage, presented by Miss Bage; a chart depicting the illness of the late King Edward VII, presented by Dr. H. Johnson; a reading desk, presented by Dr. Eric Gutteridge.

Honorary Librarian's Report.

The Library Advisory Committee have met from time to time. Members have watched new books and journals issued and made recommendations as to purchase or otherwise. By purchase and donation, 178 books have been added to the library.

During the year a catalogue of the library has been compiled, printed and issued to members. The workers for the library have had the gratification of knowing that their efforts have been appreciated, as both the number of books borrowed and the attendance at the library have been considerably increased during the past year. No work or effort will be spared to help members and keep the library up to date or to add to its usefulness. One example of the way help has been given in quoted from several instances: A member residing a long way from Melbourne asked for reference to reported cases of intermittent pneumothorax. The library staff were able to find and forward to him nine works giving a full account of the cases reported. Even had the member been able to make a search himself it would have taken much effort and considerable time.

The following are thanked for donations: Association of American Physicians (Philadelphia); Commonwealth Statistician; Consul of Uruguay; Dalgety and Company; Director-General of Health, Commonwealth of Australia; Editor THE MEDICAL JOURNAL OF AUSTRALIA; Henry Phipps Institute (Pennsylvania); Philadelphia College of Physicians; University of Wellington, New Zealand; Under-Secretary of State for Public Health, Cairo, Egypt; Walter and Eliza Hall Institute; Miss Bage, Dr. Marcel Crivelli, Dr. Jermaine Lulham bequest per Union Trustee Company; Dr. C. H. Mollison, Sir Edward Mitchell; Dr. T. A. B. Travers.

Special thanks are due for the help received from the British Medical Insurance Company, which has provided approximately £600 for library purposes during the past few years and contributed towards the formation and upkeep of small libraries in two metropolitan centres.

R. H. FETHERSTON,
Hon. Librarian.

Science Subcommittee.

The Science Subcommittee met on six occasions. The following were the attendances:

Dr. Coates	6	Dr. Hurley	2
Dr. Graham	5	Dr. Stephens	2
Dr. Norris	5	Major-General Downes	1
Dr. Colville	4	Sir A. Newton	1
Dr. McAree	4		

The syllabus of scientific meetings for the year consisted of nine monthly meetings, two country Branch meetings, eight clinical meetings.

The following were the lecturers and the subjects dealt with:

Monthly Meetings.

- February: Mr. Edgar King: Surgical Treatment of Carcinoma of the Thoracic Oesophagus.
- March: Dr. S. O. Cowen: "The Psychological Aspects of General Medical Practice."
- April: Dr. S. W. Williams: "Whooping Cough, Its Aetiology and Out-Patient Treatment."
- June: Dr. C. H. Fitts: "Observations on Physical Signs in Diseases of the Chest."
- July: Dr. Frank May: "Fibrosis."
- August: Mr. C. H. Hembrow: "Manipulative Surgery."
- September: Dr. L. E. Hurley: "A Discussion of Some of the Common Problems met with in General Practice."
- October: Dental Hospital: Clinical Demonstrations.
- November: Dr. Eric Cooper: "Athletics and the Heart."

Clinical Meetings.

- April: Austin Hospital.
- May: Royal Melbourne Hospital.
- June: Eye and Ear Hospital.
- July: Alfred Hospital.
- August: Women's Hospital.
- September: Queen Victoria Hospital.
- October: Paediatric Society—Children's Hospital.
- November: Saint Vincent's Hospital.

Branch Meetings in the Country.

- August 29, at Bendigo (Bendigo Sub-division): Clinical meeting, Bendigo Base Hospital. Dr. S. O. Cowen (Melbourne), "Funny Turns"; Dr. D. W. Neville (Bendigo), "Progress of a Decade in Pre-operative and Post-operative Treatment".
- November 21, at Hamilton (South-Western Sub-division): Clinical meeting at Hamilton Hospital. Dr. J. Le M. Kneebone (Hamilton), "Hydatid Disease"; Dr. H. Boyd Graham (Melbourne), "Hydatid Diseases in Children—a Survey of Cases Attending the Children's Hospital Since 1900".

Yallourn Committee.

A conference was held on March 12 with representatives of the Yallourn Medical and Hospital Society. Terms of appointment of the second medical officer and a proposal to appoint a resident medical officer at the Yallourn Hospital were discussed. The committee also acted in selecting a doctor, from several applicants, for Werrimull, where an interesting departure in establishing a contract service at £2 per family per annum has been made.

Social.

Golf.: The third annual golf tournament was played on the Royal Melbourne Golf Links, Cheltenham, on October 22. There were seventy competitors. The championship (the Weigall Cup) was won by Dr. W. K. Davenport. For

the handicap event (the Roseby Cup) three members returned a net score of seventy, but in the count back for the last nine holes, Dr. F. Dovovan was placed first.

Boules: At the invitation of the Parliamentary Sports and Social Club a game of bowls was played on December 13, 1935, and won by our representatives. The invitation has been repeated this year and the game will be played on December 11.

President, British Medical Association, 1935-1936.

Sir James Barrett, President of the British Medical Association, 1935-1936, visited Oxford for the one hundredth and fourth annual meeting and handed over his badge of office to Sir Farquhar Buzzard. Prior to his departure Sir James was entertained at dinner by members of the Branch, and, on his return, was welcomed by the Council on October 28, when he gave an interesting account of his visit. Sir James has earned the thanks of all members in Australia for his conduct of the office and particularly for his special visit to Oxford.

Congratulations.

During the year under review, Council had pleasure in conveying congratulations to: Sir Hugh Devine on his knighthood by His late Majesty King George V; Sir Alan Newton on his knighthood by His Majesty the King; Dr. R. S. Lawson on his winning the Hallett Prize, and Dr. A. M. Hill the Bishop Harman Prize; Dr. T. A. Travers on being awarded a British Medical Association Research Scholarship; Surgeon-Commander L. Lockwood on having attained the highest marks in an examination for promotion to the rank of Surgeon-Commander, and Dr. Allen Robertson on appointment as Chairman of the Board of Control of the Australian Cricket Association.

Federal Council.

The Federal Council met in Melbourne in March, and in Sydney in August. Full reports of the proceedings appear in THE MEDICAL JOURNAL OF AUSTRALIA of April 4, page 480, and September 19, page 406.

Australasian Medical Congress.

The fifth session will be held in Adelaide, August 23-28, 1937. Dr. F. K. Norris has been appointed Honorary Local Secretary for Victoria.

Branch Convocation.

The first meeting of Convocation was held on February 28 to discuss national insurance and was attended by thirty-three members of Council and thirty-seven representatives of Sub-divisions. Prior to the meeting, subdivisional meetings, attended by the Honorary and Medical Secretaries, had been held throughout the State and delegates informed of the views of the members they represented. Convocation agreed to certain basic principles under which a national health insurance scheme would be acceptable to the profession in this State.

National health insurance has also been discussed at two special meetings. On January 23 Dr. G. F. McCleary, formerly Principal Medical Officer of the National Health Insurance Commission and Deputy Senior Medical Officer at the Ministry of Health of Great Britain, gave an interesting address on the working of the system in Great Britain and on October 1 we were privileged to hear the views of Sir Walter Kinnear, Comptroller of Insurance, Ministry of Health of Great Britain, who was visiting Australia to advise the Commonwealth Government.

The Stawell Oration.

The third oration was delivered by Dr. C. T. Champion de Crespigny, of Adelaide, at the Medical Society Hall, on August 21, the subject being "The Outlook on Modern Medicine—a Physician's View". Following the oration the President entertained visitors and members of Council at supper at the Hotel Windsor.

The Stawell Memorial Clinical Prize.

The purpose of the fund from which the prize is given is to commemorate appropriately the memory of the late President-Elect of the 103rd annual meeting of the British Medical Association (Sir Pichard Stawell) and his great influence in the clinical teaching of medical students and young graduates. Donations to establish the Fund were received from members of the medical profession and others, to which was added a grant by the Executive of the 103rd annual meeting. The first award will be made in 1937 and a sum of £40 will be given for the best essay on "The Clinical Significance of Pathological Changes in the Ocular Fundus". Competition is limited to graduates of not more than three years' standing on August 1, 1937, and full details will be published in THE MEDICAL JOURNAL OF AUSTRALIA.

The E. H. Embley Prize Medal.

The examination for the third award was held on November 18 and the Medal will be presented at the annual meeting.

Branch Reorganization.

A special subcommittee is dealing with this question and will submit suggestions for promoting a closer liaison between Council and members of the Branch, the alteration of annual meeting procedure, the possibility of acquiring new premises, and the cooption of members of Council. It has already been decided that an editorial committee will prepare a monthly report of Council transactions for publication in THE MEDICAL JOURNAL OF AUSTRALIA. Members will also be informed of matters of interest through the monthly notice paper.

Workers' Compensation.

Following the passing of the *Workers' Compensation Act* in 1935 it was hoped that the sum of £5 would be available towards the cost of ambulance, medical and hospital services to injured workers. Owing, however, to the interpretation of the word "immediately" which has been adopted by the insurance companies, the provision of the £5 has been of no value to the injured worker or his attending doctor. Various aspects of the legislation have been discussed by the Hospital, Organization, Legislative, Ethics and a special subcommittee and the position has been placed before the Premier and discussed in the House. It is hoped that an amending bill will clarify the present anomaly before the end of the year, as we have been assured by the Premier that the present interpretation of the Act is not in accord with the intentions of Parliament.

Economic Survey of Profession.

During the year a *questionnaire* was circulated and over 600 replies received. As a result confidential information of medical incomes has been acquired, which will be of value in negotiations should a system of national insurance be established.

Protection of the Civil Population against Gas Attack.

Following upon reference from the Federal Council a special subcommittee was appointed and has submitted a report. The State Ministry also has been considering the matter and has been requested to invite representatives of the Branch to attend the meetings of a committee it proposes to establish.

Citizens' Traffic Committee.

This was established by the Lord Mayor to consider and make recommendations on the traffic problem of Melbourne, and consists of representatives of interested organizations. The Branch has been represented by the Medical Secretary.

University Union Appeal.

A special subcommittee has assisted the appeal and medical graduates have contributed approximately £500. As this is far short of the amount expected, members are

reminded that the subscription list is still open, and donations may be sent to Professor Paton, University of Melbourne.

Deputation re University Needs.

Following a request from the University authorities, the President represented the Branch at a deputation which placed before the Premier requests for financial assistance to meet urgent requirements at the University.

Future Control of Mental Hygiene Department.

At the request of the Public Medical Officers' Association a deputation waited on the Chief Secretary on April 8 and discussed with him proposals for the future control of the Mental Hygiene Department.

British Medical Agency Proprietary Limited.

The Directors are able to report a fairly successful year and can claim that the agency has received its share of the business offering in the State. The position referred to in the last report, however, still persists; there is a shortage of young graduates desirous of purchasing practices and it is not anticipated that profits will reach past levels until the number of graduates increases.

A branch of the agency has now been established at the Medical Society Hall, where particulars of practices are available and all classes of agency business transacted.

C. H. MOLLISON, Chairman of Directors.

British Medical Insurance Company of Victoria Limited.

Members continue to show an increasing amount of interest in the British Medical Insurance Company of Victoria Limited. The company deserves all the support that can be given it, for it has undoubtedly been of very great benefit to members of the British Medical Association. During the eleven years of the company's activities, members who have insured with it have benefited, because of the reduced rates of premium charges, and all members of the British Medical Association have received an indirect benefit because of the financial aid which the company has been able to give to the Association.

The company has for some time been donating £500 per annum to the Medical Society of Victoria; it advanced nearly £1,200 for the purpose of establishing the Hospital Benefits Association; it has purchased over £500 worth of books for the library of the Medical Society of Victoria, and has made sundry donations to subdivisions of the Association for the establishment of local libraries.

It is in the interests of the profession generally, and of each member individually, to insure all insurance interests with the British Medical Insurance Company. Satisfaction will be felt from every point of view—in the saving of premium costs, in the careful attention to the members' interests, and in the knowledge that every pound of premium paid is furthering the interest of the Association in general.

C. H. MOLLISON, Chairman of Directors.

The Melbourne Permanent Post-Graduate Committee.

During the year representatives of the Council of the Victorian Branch of the British Medical Association and of the Post-Graduate Committee agreed upon the desirability of uniform control of post-graduate lectures and recommended that the provision of lecturers at meetings other than Branch monthly meetings, Branch country meetings, and Branch clinical meetings should be a function of the Post-Graduate Committee.

Courses of lectures in anatomy, physiology and pathology were arranged, with the cooperation of the faculties of the university, as preparation for the first parts of the M.S. and M.D. examinations. A course in obstetrics was conducted in August by Professor R. Marshall Allan and a new course in ophthalmology proved successful. Lecturers were provided for subdivisional meetings in various country centres.

Arrangements have been made for the delivery, in Melbourne, of two lectures by Professor Meakins, of the McGill University, who is visiting Australia in May, 1937, at the invitation of the Sydney Post-Graduate Committee.

An invitation to deliver a series of lectures was extended to Sir David Wilkie, Professor of Clinical Surgery in the University of Edinburgh. He is unable to come to Melbourne in 1938, but has signified his intention of coming in 1940. Other arrangements will be made for the visit of an overseas lecturer in 1938.

Prior to his departure for England, the Honorary Secretary, Dr. W. W. S. Johnston, resigned, and an appreciation of his able work during the seven years in which he held office was recorded.

E. GRAEME ROBERTSON,
Honorary Secretary.

The Victorian Medical Benevolent Association.

At the annual meeting held on March 24, Dr. R. H. Fetherston was again elected President for the year. The Treasurer, Dr. L. Mitchell, presented the balance sheet, which showed accumulated funds of £8,726. The income was £481, of which interest amounted to £304 and subscriptions to £177. The expenditure was £229, of which £224 was distributed in relief. The committee again expressed its thanks to the large number of members of the British Medical Association who add to their subscriptions the 5s. which makes them members of the Victorian Medical Benevolent Association. The attendance of some of these at the annual meeting would be appreciated. During the year grants have been made to five beneficiaries, who value highly the help afforded. In addition, small grants have been made to meet special emergencies. The committee desires that all medical practitioners should share in carrying on and extending this beneficent work.

EDWARD L. GAULT,
Honorary Secretary.

Reports of Subdivisions.

Metropolitan Subdivisions.

South-Eastern Suburbs Subdivision.—The annual meeting was held on November 19, 1935. Office-bearers for the year: President, Dr. W. J. Denehy; Vice-Presidents, Dr. B. D. Fethers, Dr. O. Field. The annual dinner was held at the Mentone Hotel in May and was well attended. Annual golf tournament was won by Dr. G. Foreman. A further meeting was held to discuss national insurance on February 19, 1936, when the position was explained by the Medical Secretary of the Branch.

D. C. PIGDON,
Honorary Secretary.

South-Central Suburbs Subdivision.—Two meetings were held this year. The first meeting (May 12, 1936) was held to discuss national insurance and to advise members re the Branch Convocation to be held on February 23. The Financial Secretary of the Branch addressed the meeting at length on national insurance. The meeting decided unanimously to support the resolutions as recommended by the Council of the Branch. Dr. Aitchison, Dr. Grover and Dr. Green subsequently represented the subdivision at convocation. The second meeting was held on August 4, 1936, at the request of the committee of the South Melbourne Dispensary. Members of this committee attended and asked for the cooperation of the medical practitioners of the district in helping to cut down the expenses of the dispensary as regards quantities of dressings, number of doses of prescriptions, and after-hours prescribing. The President was instructed to confer with the secretary of the committee. Very cordial relations were established with the committee and cooperation with them was assured.

FRANCIS E. McAREE,
Honorary Secretary.

Melbourne (Central) Subdivision.—During the year the members of the subdivision have met on one occasion only. The meeting was held to consider the proposals of the Branch Council concerning the national health service policy which was submitted to the meeting of convocation in February, 1936. The representatives of the subdivision on the Branch convocation were Sir James Barrett and Dr. L. B. Cox, Dr. W. A. Hales, Dr. K. Hiller, Dr. C.

Macdonald, Dr. G. A. Penington, Dr. G. R. A. Syme, Dr. Douglas Thomas, Dr. H. C. Trumble. As the number of members of the subdivision has increased, Dr. C. H. Osborn has been appointed in addition for 1937.

H. BOYD GRAHAM,
Honorary Secretary.

Northern Suburban Subdivision.—One meeting of the subdivision was held during the year, on February 24, to discuss the question of national health insurance. There were 25 present, including delegates chosen for convocation. The members were very appreciative of the résumé of the question as given by the two secretaries, and an earnest discussion ensued. The Secretary for the current year is Dr. D. Officer Brown, of Brunswick.

W. F. BROWNELL,
Honorary Secretary.

North-Eastern Suburban Subdivision.—Two meetings were held during the year. Two resolutions were passed by the subdivision and transmitted to the Council, one opposing any further extension of out-patient dispensaries, and the second requesting Council to investigate the conditions of service *et cetera* of dispensary medical officers. Dr. J. A. Cahill was reelected President and Dr. D. Roseby Honorary Secretary.

D. ROSEBY,
Honorary Secretary.

Western Suburban Subdivision.—One meeting was held during the year. This was called to consider an ethical question and was attended by Dr. Dickson and Dr. Major. Dr. M. H. Box and Dr. G. Robinson are representatives on Branch convocation for 1937.

M. J. COSTELLOE,
Honorary Secretary.

Eastern Suburban Subdivision.—At the annual meeting the following office-bearers were elected: President, Dr. W. Spalding Laurie; Executive, Dr. Watson, Dr. Ashton, Dr. True and Dr. Forsyth; Honorary Secretary, Dr. Newport White. At the same meeting the Medical Secretary attended and was very helpful in clearing up doubtful points in the discussion on national health insurance which followed. Later in the year Mr. C. H. Hembrow gave a very interesting illustrated lecture on "Joint Manipulation".

NEWPORT B. WHITE,
Honorary Secretary.

Country Subdivisions.

Goulburn Subdivision.—Two meetings of the subdivision were held at Mooroopna during the year: (1) A meeting was held to discuss the question of national insurance, prior to the meeting of Branch convocation on February 28. (2) The annual meeting, at which the following office-bearers were appointed for the ensuing year: President, Dr. R. O. Mills; Vice-President, Dr. S. F. Sutherland; Honorary Secretary, Dr. Annie L. Bennett; Committee, Dr. F. W. Grutzner and Dr. J. A. Kennedy; Representative on the Advisory Board of the Mooroopna Hospital, Dr. F. W. Grutzner. At the meeting of Branch convocation held on February 28, the subdivision was represented by Dr. Grutzner and Dr. Sutherland.

ANNIE L. BENNETT,
Honorary Secretary.

North-Western Subdivision.—A meeting was held at Horsham on February 15. Ten members were present and the following officers were elected: President, Dr. F. J. Bonnin; Honorary Secretary and Treasurer, Dr. G. Forsyth. The agenda for the Branch convocation was discussed, and certain recommendations on aspects of national health insurance were made for the guidance of delegates.

G. FORSYTH,
Honorary Secretary.

South-Western Subdivision.—Four meetings of the subdivision have been held since November of last year and

all have been well attended, the average attendance being fourteen. In November, 1935, a meeting was held at Portland and Dr. Robt. Fowler delivered a lecture on "Pelvic Infections". At a special business meeting held at Mortlake in February Dr. Littlewood and Dr. Morlet were elected delegates to Branch convocation and representatives from Melbourne gave a résumé of the position regarding national insurance. In March, 1936, the subdivision meeting was held in Terang for the first time and Dr. H. Douglas Stephens lectured to a well attended meeting on "Acute Abdominal Conditions in Children". The next meeting was held at Hamilton in May, when Dr. John Kelly delivered an illustrated lecture on "Skin Conditions". The annual meeting of the subdivision was held at Warrnambool in August, and after the business meeting Dr. John McLean delivered a lecture on "The Modern Conception of Blood Diseases". At this meeting the following office-bearers were elected for the ensuing two years: President, Dr. A. A. Weir; Vice-Presidents, Dr. F. E. Littlewood, Dr. J. Le M. Kneebone; Secretary and Treasurer, Dr. L. J. Westacott; Committee, Dr. Morlet, Dr. Holmes, Dr. Buzzard, Dr. Francis and Dr. Fitzpatrick.

L. J. WESTACOTT,
Honorary Secretary.

Bendigo Subdivision.—During the year the Clinical Society was reorganized, and now conducts regular clinical meetings, interspersed with lectures from specialists in various departments. Progress has been made with the establishment of a library, available to all members of the subdivision. We are grateful to the British Medical Insurance Company for financial assistance in this project. A consultative clinic has been formed to facilitate and improve the use of radium at the Base Hospital. Members have familiarized themselves with the work at radium clinics in other centres, and are already agreed that the consultative method has definite advantages. Office-bearers for the year are: President, Dr. J. L. W. Sharland; Vice-President, Dr. E. Sandner; Committee, Dr. W. E. Harrison, Dr. H. R. Catford and Dr. P. Goodman; Librarian, Dr. G. Fenton.

D. W. NEVILLE,
Honorary Secretary.

Geelong Subdivision.—The subdivision comprises some thirty active members, with an average attendance at meetings of twenty. Office-bearers for the year were: Chairman, Dr. W. H. Long; Vice-Chairman, Dr. G. E. Cole; Representative on Convocation, Dr. R. G. McPhee; Representative on Council, Dr. R. L. Fulton. During the year four general meetings and one special meeting were held. Five clinical lectures were given as follows: Mr. H. C. Trumble, "Surgical Aspects of Pulmonary Tuberculosis"; Dr. John S. Green, "Toxæmias of Pregnancy"; Dr. C. R. Merrillees, "Schick Testing and Immunization for Diphtheria", followed by demonstration; Dr. H. Douglas Stephens, "Surgical Emergencies in Children"; Mr. Thomas King, "General Consideration of the Treatment of Wounds (including Burns, Tendon Injuries and Compound Fractures) and Injuries of the Extremities".

KENNETH PURNELL,
Honorary Secretary.

Ballarat Subdivision.—During the year successful quarterly meetings were held, at which post-graduate lectures were given. Another very successful function was a combined meeting of the medical and legal professions of Ballarat, which took the form of a dinner, followed by an address on "The Medico-Legal Aspects of Insanity", by Mr. J. V. Barry. Other activities, such as the Clinical Society and library, are flourishing and indicate the good work that has been done during the year. Office-bearers for the year were as follows: President, Dr. G. T. James; Vice-President, Dr. W. R. Griffiths; Treasurer, Dr. G. R. Davidson; Honorary Secretary, Dr. C. E. Richardson; Council, Dr. N. A. Longden, Dr. J. G. Barnaby, Dr. A. B. Campbell, Dr. W. T. Greening.

C. E. RICHARDSON,
Honorary Secretary.

North-Eastern Subdivision.—A meeting of the subdivision was held during the year, under the chairmanship of Dr. V. Davies, to discuss matters pertaining to convocation. A meeting of clinical interest to members is being arranged for an early date.

E. W. HANDS,
Honorary Secretary.

Gippsland Subdivision.—During the year two meetings of the subdivision were held, namely, at Warragul, on June 28, 1936, and at Sale on October 24, 1936. Additional interest was provided by lectures given by Melbourne men—"An Obstetrical Lecture" at Warragul (Dr. J. S. Green) and "Management of Common Urological Conditions in General Practice" (Dr. J. T. Tait) at Sale. At Warragul Dr. Norris and Dr. Dickson were in attendance and addressed members concerning various Branch activities. At the Sale meeting office-bearers were elected for the forthcoming year: Dr. G. A. Hagenauer and Dr. C. M. Ley being re-elected President and Secretary respectively.

C. M. LEY,
Honorary Secretary.

Reports of Sections.

Radiological Section.

The section has held its usual monthly meetings during this year. The two most important events were, a discussion on Mr. E. S. J. King's Book, "Rarefying Conditions of Bone", and a joint lecture by Dr. Henry Watson on "The Contralateral Lung During Pneumothorax Treatment", and Mr. Henry Searby on "Thoracoplasty in Tuberculous Diseases of the Lungs". Other activities were demonstration evenings, a discussion on "The Treatment of Superficial Malignancies", and consideration of medico-political subjects. A special scale of fees for X ray work for friendly society patients has been suggested as a basis of deliberation by interested parties. There are twenty-one members of the section. President, Dr. R. R. Wettenhall; Treasurer, Dr. F. G. Stephens.

KEITH HALLAM,
Honorary Secretary.

Ophthalmological Section.—There have been six meetings this year. The President for the year is Dr. Edward Gault. The main business, apart from the usual presentation of cases, has been the establishment of the Medical Eye Service of Victoria. The formation of a Federal Australasian Society of Ophthalmology is at present under consideration by the various States. The practice of having occasional papers read at the meetings has been recommended. Dr. R. B. Maynard has read a paper on "The Bacteriology of the Conjunctival Sac". The important subject of "Percentage of Diminution of Vision After Accidents" is shortly to be discussed.

T. A'B. TRAVERS,
Honorary Secretary.

Section of Obstetrics and Gynaecology.—No meetings of the section have been held during 1936. The office-bearers are: President, Dr. E. R. White; Honorary Treasurer, Dr. P. Brett; Honorary Secretary, Dr. G. B. Bearham.

G. B. BEARHAM,
Honorary Secretary.

Ear, Nose and Throat Section.—There are thirty-six members of the section. Office-bearers: President, Dr. Jean Littlejohn; Honorary Treasurer, Dr. T. G. Millar; Committee, Dr. H. S. Forrest, Dr. Cecil Cantor, Dr. Clive Eadie. Eight meetings of the section have been held and papers read by Dr. T. G. Millar, Dr. Athol Blaubaum and Dr. Eric Gutteridge.

ERIC GUTTERIDGE,
Honorary Secretary.

Anesthesia Section.—The section has twenty-two members. Four meetings were held during the past twelve months, the average attendance of members at each meeting being thirteen. The office-bearers are: President, Dr. G. L. Lillies; Secretary, Dr. G. Kaye.

GEOFFREY KAYE,
Honorary Secretary.

Section of Neurology and Psychiatry.—During 1936 two meetings were held. At the first Dr. Leonard Cox read a paper, illustrated by lantern slides, dealing with mental changes associated with tumours of the base of the brain. This was accompanied by an anatomical demonstration by Dr. Sunderland. Another clinical meeting was held at Mont Park, when demonstrations were given by the staff of the hospital. Office-bearers for the year: Chairman, Dr. J. C. Catarinich; and Honorary Secretary, Dr. J. F. Williams.

JOHN F. WILLIAMS,
Honorary Secretary.

Section of History of Medicine.—Papers of interest were those given by the late Dr. George Howard, Dr. Alan Mackay, senior, and Dr. Colin Macdonald. The suggestion by Dr. Mackay that the Association be approached to place a brass tablet in the Medical Society Hall as a memorial to George Bass, Surgeon, His Majesty's ship *Reliance*, the first medical man to land in Victoria, was accepted. The memorial was unveiled by Professor Ernest Scott, who read a paper on the life of George Bass.

During the year Dr. Hilliard Johnson, of Frankston, presented the section with a graph depicting the progress of His late Majesty King Edward VII's illness in 1871.

During the Swan Hill Centenary Celebrations the section was invited to be present at the unveiling of a memorial to Barry Cotter, Melbourne's first doctor, who died there in 1877. The memorial was unveiled by Dr. Felix Meyer. This section was formed in 1933 and its objects are: 1. To keep green the memory of the men who were responsible for the formation of the Medical School, and of those who practised medicine in the early days of the State. 2. To provide post-graduate lectures in the History of Medicine for candidates for the M.D. examination.

So far the activities of the Section have been confined to the first of these objects, but it is hoped in the near future that the second will be realized.

W. E. DONALDSON,
Honorary Secretary.

The Annual Report is submitted on behalf of the Council.

WALTER SUMMONS,
President.
F. KINGSLEY NORRIS,
Honorary Secretary.

THE BISHOP HARMAN PRIZE.

The President extended a welcome to Dr. A. M. Hill, who had recently returned from England, and congratulated him on having won the Bishop Harman Prize.

THE E. H. EMBLEY PRIZE MEDAL.

This year Elizabeth Osborne was presented with the gold medal, covering the fourth award of the E. H. Eembley Prize, and was congratulated by the President.

GOLF TROPHIES.

The championship golf trophy, donated by Dr. Gerald Weigall, was presented to Dr. W. K. Davenport; the handicap trophy, donated by Dr. D. Roseby, was presented to Dr. F. G. Donovan.

RETIRING MEMBERS OF COUNCIL.

On the motion of Dr. J. P. Major, seconded by Dr. L. S. Latham, a vote of thanks was accorded to Dr. A. P. Derham and Dr. Gerald Weigall, both of whom had given generously of time and energy to the affairs of the Branch during the many years of their membership of the Council.

INDUCTION OF PRESIDENT.

Dr. Walter Summons inducted the newly elected President, Professor R. Marshall Allan, to the chair.

PRESIDENT'S ADDRESS.

The retiring President, Dr. Walter Summons, then delivered his address (see page 75).

VOTE OF THANKS.

A vote of thanks to the retiring President for his address was carried on the motion of Sir James Barrett.

In responding, Dr. Walter Summons thanked members for the assistance they had given him during his year of office.

SCIENTIFIC.

A MEETING of the South Australian Branch of the British Medical Association was held at the Anatomy Theatre, University of Adelaide, on October 9, 1936, Dr. A. F. STOKES, the President, in the chair.

Congenital Tumour of the Upper Jaw.

DR. J. M. DWYER gave a description of a small congenital tumour, the size of a pea, arising by a broad, thin attachment from the left upper jaw at approximately the junction of the premaxilla and maxilla. Two cases were described, one seen in September, 1921, occurring in a child fourteen days old, and the other seen in August, 1936, occurring in a child five days old.

Photographs of the recent case with the tumour *in situ* were shown. Photographs of the microscopic sections of each case were shown on the epidiascope, and the cellular structure was discussed and compared with other tumours.

Dr. Dwyer said that a search of the literature over the last ten years revealed no certain reference to the condition, though possibly five cases had been referred to in foreign journals during this period. The condition found no mention in standard works on pathology.

Thanks were expressed to Mr. Crompton, of the Children's Hospital, for preparing the photographs of the child, and to Mr. McLennan, of the Adelaide Hospital laboratory, for the photographs of the microscopic sections. Every photograph reproduced excellently on the screen.

Neurasthenia.

DR. D. R. W. COWAN showed a young man of twenty-six years, a medical student, said to be suffering from neurasthenia. With a good school record he had started medicine at the University of Adelaide in 1929 and passed the first two years without difficulty. Then he failed four times in succession. Each year the same thing happened: towards the end of the second term or the beginning of the third he became mentally and physically weary and could not concentrate on his work. In 1935 he was told he was suffering from neurasthenia, and was advised to abstain from all mental effort for twelve months. This he did and occupied himself with mild manual work out of doors. He started medicine again in 1936, being reduced to the status of a second-year student. Exactly the same set of symptoms arose and he again sought medical advice. He was found to be suffering from a mild persistent pyrexia, for which two possible sources were discovered, namely, foci of infection around the roots of two molar teeth, and a latent tuberculous infection evidenced by pronounced reactions to cutaneous and subcutaneous tuberculin tests. Dr. Cowan said that primary neurasthenia was not a common condition in young adult males, and it was important to search for foci of infection. Many years ago Rivière had pointed out that neurologists were sending their neurasthenic patients to tuberculous experts to eliminate the possibility of latent tuberculous infections. In this case, if the two possible sources of mild chronic toxæmia could be satisfactorily dealt with, it was suggested that the future was likely to be less dismal than the past.

Pulmonary Tuberculosis and Pregnancy.

Dr. Cowan discussed two patients suffering from tuberculosis complicated by pregnancy, and demonstrated the condition of their lungs by radiographs. The first patient was a young woman of twenty-four years, who had been admitted to hospital in April, 1934, with a fairly extensive consolidation in the right lung and tubercle bacilli in the sputum. She was treated by artificial pneumothorax and

did well. In December, 1935, she asked if she could marry and was told that if she remained well until the following April there was no objection to her marrying, provided she was going to a good home, that she would take care of colds and similar respiratory infections, and that she would avoid pregnancy for twelve months or until it was considered safe. She married in April, 1936, having been quite free of symptoms for two years. The only thing at that time to cause uneasiness was the fact that her blood sedimentation rate had remained rather too rapid (about fifteen millimetres at the end of an hour). For safety's sake it was decided to keep the pneumothorax going for another six months. In June she had a febrile attack and was admitted to the ward for one month. The cause of the pyrexia was probably some pleural reaction following a refill, with increase of pleural effusion. She had no cough or sputum, but the blood sedimentation rate fell to thirty millimetres in the hour. She left the ward, apparently well, in July, and reported in September having missed a menstrual period. She was found to be two months pregnant. After consultation with a medical colleague it was recommended that the pregnancy should be terminated, even though there were no definite signs of activity in the lung lesion. The reasons that actuated the physicians in this case were: (i) the recent febrile illness, (ii) the rapid blood sedimentation rate, (iii) the unsatisfactory X ray appearances. After some discussion with the gynaecological clinic the pregnancy was terminated and the patient was making satisfactory progress.

The second case was that of a woman of forty-one years who was known to have had pulmonary tuberculosis for about fourteen years. She had been under observation more or less constantly for ten years. She had three children, aged twenty, sixteen and ten years respectively. In the early stages of the disease the radiograph showed nothing more than a very slight amount of infiltration at the right apex. Following the birth of her child in 1926 there was an exacerbation of the disease, and subsequent films taken at intervals showed definite pathological changes at both apices, gradually increasing in extent. However, for the most part the lesions remained quiescent and the patient had maintained reasonably good health. In May of this year she was found to be pregnant, and the physicians who considered the case took such a grave view of the matter that they advised that the pregnancy should be terminated and a sterilizing operation performed. She was referred to two gynaecological clinics, both of which declined to perform the operation, on the ground that the lung disease was inactive. The woman was now eight months pregnant, had had recent blood spitting, and was not well. A recent radiograph showed changes at the right apex which strongly suggested cavitation. It looked as if the disease had become active, and tragedy now faced this family. The tuberculosis clinic took the view that the final judgement as to whether a tuberculous lesion was active or inactive, or as to whether the medical condition of a patient was such that pregnancy constituted an undue risk, should rest with the physician.

DR. STOKES, from the chair, thanked Dr. D'Arcy Cowan for having presented his two cases of pregnancy complicated by active pulmonary tuberculosis. The subject was a very important one, and he had no wish to balk the discussion of them in regard to emptying the uterus, but it was not the occasion on which to discuss them, as there were two papers to be read and there was not time. He offered the suggestion that if Dr. Cowan could not settle the matter amicably with the gynaecological clinic, he might consider the question of adding a small contraceptive clinic to his one for tuberculosis.

Ante-Natal Supervision and Pain in Childbirth.

DR. T. G. WILSON read a paper entitled "Some Remarks on Ante-Natal Supervision" (see page 86).

DR. BRIAN SWIFT read a paper entitled "Some Remarks on the Relief of Pain in Childbirth" (see page 88).

DR. R. G. MAGAREY opened the discussion by thanking Dr. Wilson and Dr. Swift for their excellent papers. Adelaide was very fortunate in having so able a teacher as Dr. T. G. Wilson. His paper was based on his extensive

practical experience, and as this covered a long period of time, his observations were all the more valuable and interesting.

DR. E. COUPER BLACK said he was pleased to see that nitrous oxide was coming into use more; it certainly was the best anaesthetic for the purpose. He had read of the extensive use of Minnitt's nitrous oxide and air apparatus in England and would like to inspect the one shown. He wondered why a cylinder of oxygen was not included; nitrous oxide with oxygen was certainly better than nitrous oxide and air, as cyanosis and anoxia could be avoided. As to expense, oxygen was only a fraction of the cost of nitrous oxide. For a hospital where lightness and portability did not come into consideration, an apparatus with nitrous oxide and oxygen would be preferable. For operative procedures, the application of forceps *et cetera*, an assistant could easily go on to continuous anaesthesia and deepen it with added ether to give as much relaxation as was required.

As to barbiturates, he noted the varying and mostly unfavourable reports of restlessness that Dr. Swift had obtained from house surgeons in American hospitals where "Nembutal" was used. Giving a further dose might produce a quieter condition, but was approaching the danger line, particularly if, for operative procedures needing good relaxation, an inhalation anaesthetic was added, as the respiratory centre was depressed by barbiturates. The restlessness was similar to that seen in general surgery, where patients on return to the ward had become so restless and troublesome as to need one or often more special nurses to control them. His experience was that "Nembutal" was unpopular with ward sisters.

DR. MARIE BROWN said that the analysis of cases from the Queen's Home, presented in his paper by Dr. Wilson, was interesting in view of the work done by the Mothers and Babies' Health Association in the matter of pre-natal supervision.

This institution had been conducting consultations for pre-natal welfare during the last ten years, and a large number of the women attending them were subsequently confined at the Queen's Home. Dr. Marie Brown said that it was yet too early for the effects of pre-natal supervision to be evident in the statistics of maternal mortality, as the work was of recent origin and not yet universally applied. However, it was probable that there was already a great improvement as to morbidity of both mother and child as a result of what had already been done in this direction.

Pre-natal supervision was useful, not only in detecting toxæmias and pelvic abnormalities, but in an even wider sphere in alleviating the discomforts and minor ills of pregnancy, supplying guidance as to general hygiene and in detecting concurrent disabilities.

In the right hands pre-natal supervision helped the prospective mother and gave her confidence, but unnecessary manipulation should be avoided, as it was harmful and disturbing.

DR. GILBERT BROWN said that there were four essentials for an analgesic agent in midwifery: (i) it should be simple and inexpensive; (ii) there should be no danger to mother or child; (iii) it should give relief from pains during labour; (iv) uterine contractions must not be inhibited. So far, no method has been devised which fulfilled all these criteria. It had been hoped that chloroform capsules would be satisfactory and safe; their use had been almost abandoned, as deaths had occurred from the use of too many capsules. Also their use increased the possibility of liver damage, if more chloroform had to be used at the end of the second stage.

The Liverpool Maternity Hospital had employed paraldehyde with success. Their method was to give seven ounces of paraldehyde in seven ounces of olive oil by the rectum, regardless of the weight of the patient.

Dr. Brown had seen Minnitt's gas and air apparatus in use in England at several hospitals and found that it was most effective. He had questioned a large number of patients, and both *multipara* and *primipara* were quite definite as to the amnesia afforded. The nursing staffs of the different hospitals were enthusiastic about it. Gas and air were most successful when morphine had not been

injected beforehand, as the patient was able to cooperate better. Morphine, however, was used in some hospitals, but the combination of hyoscine with gas and air was considered to be dangerous. If gas and air were used very early, there was some slowing of the pains, but not when the os was dilated to three fingers' breadth. In Australia the cost of nitrous oxide was considerable—about three times that of the cost in England. Minnitt's apparatus delivered a mixture of 35% nitrous oxide in air and used about 35 gallons per hour. In Adelaide this would cost between four and five shillings per hour. In a short labour the added expense would not be serious, but in protracted labours the cost would be more than most patients were prepared to pay. A suggestion had been made that the addition of a cylinder of oxygen to the apparatus would increase the safety and decrease the expense. It had been found that air was quite as satisfactory as oxygen for the purpose, so to include a cylinder of oxygen would increase the weight of the machine and add to the cost of the administration.

DR. ROLAND BEARD wished to associate himself very warmly with the thanks offered to Dr. Wilson. Adelaide had been fortunate in having him as a teacher for so many years. Dr. Beard spoke as one of his grateful students. Dr. Wilson possessed a strong personality, not easily moved in this or that direction, and strong opinions were very necessary in obstetrics. He considered Dr. Wilson second to none as a sound teacher.

Ante-natal supervision, although it had apparently not produced dramatic statistics, was nevertheless of great value, and would be increasingly valuable. He would also like to thank Dr. Brian Swift for his interesting and instructive paper. While he quite agreed with Dr. Swift as to the necessity of keeping the patient's mind free from apprehension in the ante-natal atmosphere, he thought it was, however, very necessary to cover the essential points of examination at the most opportune visits. Dr. Beard had one strong impression of the ante-natal period, and that was the influence which so-called friends had upon the expectant mother. He compared the expectant *primigravida*, in these circumstances, with a raw recruit meeting a veteran before battle conditions. Women did not sufficiently realize that they had a big and serious obligation to one another. He commended this aspect to Dr. Marie Brown, who might, through her association with women's organizations, combat this influence.

DR. B. E. WURM joined in thanking Dr. Wilson and Dr. Swift for their instructive papers. Much could be said regarding ante-natal work. Dr. Swift had mentioned assurance as an ante-natal measure. It would do all obstetricians good to read "Natural Childbirth", by Grantley Dick Read. This author carried his ante-natal assurance on to the labour room, where, by his actual presence and assurance, he rendered such psychic support as allayed inertia and overcame uterine incompetence. "Labour pains" was an expression banned by Read, who talked of uterine contractions with the idea of the parturient having a natural introduction to her ordeal instead of that prolonged anticipation of the travail of labour so varyingly described by mothers. The man who rushed into the labour room with a bold display of instruments assisted inertia in contrast to the assurance of the patient, watchful attendant who was there frequently noting progress. First and foremost in ante-natal measures one must watch the general health in order to have the patient as physically fit as possible. Iron, calcium and often vitamin preparations as "Adexolin" were invaluable in the later months of pregnancy as aids to physical fitness. Statistics showed that a *multipara* in her fifth and later pregnancies ran a risk equal to that of the *primipara* and her general health and safety demanded special care. The idea that the delivery of *multipara* was easy was apt to be met with unexpected pitfalls. One ante-natal measure keenly practised in Dublin was external version so far as reasonable in all breech cases, undoubtedly leading to a lessening of infantile stillbirths and maternal injuries. As regards disproportion, the British schools now adopted trial labour for all primiparous women with a true conjugate of three and a half inches or over; premature induction was being

discarded, so often did Nature prove the judgement of disproportion to be wrong. Regarding anaesthesia, mother's mixture consisting of tincture of opium, chloral and bromide was a mixture in the Rotunda labour ward. It was commonly believed and accepted that this mixture was very safe, a helpful early sedative, and helped with the relaxation of the rigid cervix. Dr. Wurm had seen "Nembutal" given in large doses, three doses of as much as six grains each with six-hour intervals. In practice he had often begun with one-sixth of a grain of morphine and one one-hundredth of a grain of hyoscine; after two hours he had given three grains of "Nembutal" and then one and a half grains of "Nembutal" at two-hour intervals as necessary. Hyoscine and morphine were used separately with "Nembutal"; the main point to remember was the synergistic action of morphine with "Nembutal".

The President, Dr. Stokes, thanked Dr. T. G. Wilson and Dr. Brian Swift for having given their interesting and instructive papers.

NOMINATIONS AND ELECTIONS.

THE undermentioned has applied for election as a member of the New South Wales Branch of the British Medical Association:

Morey, Max Robert, M.B., B.S., 1933 (Univ. Sydney), 337, Anzac Parade, South Kensington.

The undermentioned have been elected members of the New South Wales Branch of the British Medical Association:

Gay, Keith Roy, M.B., B.S., 1936 (Univ. Sydney), 494, Mowbray Road, Lane Cove.

Gledhill, Walter Charles, M.B., B.S., 1936 (Univ. Sydney), Royal Prince Alfred Hospital, Camperdown.

Hart, John Wesley, M.B., M.S., 1890, M.D., 1898 (Edinburgh), 74, Woods Street, Manly.

Rose, Norman Henry, M.B., B.S., 1936 (Univ. Sydney), Sydney Hospital, Sydney.

Reid, David Robertson, M.B., B.S., 1935 (Univ. Sydney), Eastern Suburbs Hospital, Waverley.

Scott, John Linsley Dalkeith, M.B., B.S., 1936 (Univ. Sydney), Sydney Hospital, Sydney.

Stening, Malcolm James Lees, M.B., B.S., 1936 (Univ. Sydney), Royal Prince Alfred Hospital, Camperdown.

The undermentioned have applied for election as members of the South Australian Branch of the British Medical Association:

Frayne, John Felix, M.B., B.S., 1936 (Univ. Adelaide), 123, Cambridge Terrace, Malvern.

Hurst, Edward Weston, M.B., Ch.B., 1922 (Birmingham), M.D., D.Sc., M.R.C.P. (London), Government Bacteriological Laboratory, Adelaide.

Ray, John, M.B., B.S., 1936 (Univ. Adelaide), 242, Portrush Road, Glen Osmond.

Welch, Frank Edison, M.B., B.S., 1936 (Univ. Adelaide), 228, Glen Osmond Road, Fullarton Estate.

White, Joan Hazel, M.B., B.S., 1936 (Univ. Adelaide), Tranmere Terrace, Tranmere.

The undermentioned has been elected a member of the South Australian Branch of the British Medical Association:

Holland, Laurence Corin, M.B., B.S., 1935 (Univ. Adelaide), 21, Burwood Avenue, Prospect.

Post-Graduate Work.

LECTURES BY DR. KELLOGG SPEED.

THE New South Wales Post-Graduate Committee in Medicine regrets to announce that the series of four

lectures on fractures, to have been delivered by Dr. Kellogg Speed during the week beginning January 25, 1937, will not be given. Dr. Speed is unfortunately unable to obtain a passage to Australia, on account of the shipping strike in the United States of America.

Correspondence.

THE SPECIALIST ANAESTHETIST.

SIR: In your issue of December 19, the article "The Specialist Anæsthetist", there is a paragraph:

The general practitioner is quite capable of inducing the short anaesthesia required for the opening of boils and similar minor surgery; but he is usually hopelessly lost when it comes to an abdominal operation, and it is time he realized his limitations.

How many general practitioners will agree with this statement? Probably the majority of them would consider that the true reason for the writing of this article is not the inability of the average general practitioner to administer an anaesthetic for an abdominal operation, but the inability of the specialist anæsthetist to sufficiently justify his existence in order to earn a living.

Another quotation says:

Just as with major surgery the general practitioner has come to realize his limitations, so I hope he will realize his limitations in the field of anaesthesia. This is the age of the specialist, and the general practitioner must be prepared to bow *et cetera*.

The ordinary everyday patients of the general practitioners will be much better served if this is not entirely the age of the specialists. General practitioners are nowadays carrying out treatment more scientifically, more accurately and more efficiently than ever before. There is no contradicting that in these days general practitioners do a lot of work which a few years ago was beyond the reach of any of the specialists. It will be a sad day for the public when general practitioners cease to give the widest possible service, or become incapable of giving a general anaesthetic for an abdominal operation.

Yours, etc.,

"GENERAL PRACTITIONER."

January 7, 1937.

MANUFACTURE OF X RAY APPARATUS: AN EXPLANATION.

SIR: The creation of Watson Victor Limited by my board announced in last week's journal has apparently caused a little confusion.

Leading facts include the following: My company will manufacture in Australia X ray and medical electrical appliances to the design of the General Electric X-Ray Corporation as well as to the design of our own Australian engineers.

It is considered that this amalgamation of interests, together with the manufacturing which is occurring elsewhere in Australia by other companies, will help to make Australia more nearly independent of outside sources of supply for manufactured goods. This is considered by my board as being of some importance nationally since it is calculated that an increased demand could be more quickly filled to satisfy medical services than would otherwise be the case; also a wider range of apparatus and larger quantities could be provided.

Suppliers of X ray apparatus throughout Australia could at any time furnish from stocks X ray tubes (these are not made in Australia) in sufficient quantity to meet a four years' normal demand. Apart from this, it is estimated that the supply of X ray tubes already in use throughout

Australia is such as to fulfil needs for the next ten years, should Australia be cut off from X ray manufacturers abroad.

The number of employees in Australia engaged in the X ray industry by companies concerned would total several hundred. The affiliation of my company with that of General Electric X-Ray Corporation will help to swell the number of operatives employed in the industry. Those men will certainly become knowledgeable in the technical operation of these medical appliances, and in an emergency their knowledge would be of first importance.

Yours, etc.,

J. P. TRAINOR,
Managing Director,
Watson Victor Limited.

Watson House,
Bligh Street,
Sydney.

January 7, 1937.

Proceedings of the Australian Medical Boards.

VICTORIA.

A MEETING of the Medical Board of Victoria was held on December 2, 1936. The proceedings were as follows:

Registration.—Muriel Rippin, M.R.C.S. (England), 1927; L.R.C.P., 1927; M.B., B.S., 1928 (London).

Additional Diplomas Registered.—Thomas H. Ackland and Warwick McL. Smithers, M.D. (Melbourne), 1936.

Deaths Reported.—Herman Fermor Lawrence, Arthur Youl Nankivell, Edward Alfred Strahan and George James Hodgson.

The report of the death of Dr. G. J. Hodgson, who recently retired from the Board after having served as a member for more than twenty-nine years, was received with deep regret, and the action of the President in directing that the condolences of the Board be conveyed to the relations of the deceased was endorsed.

On the advice of the Crown Solicitor, a file relating to the alleged association of three practitioners with medical institutes conducted by lay persons was forwarded to the Police Department for inquiry and report.

It was decided to request an explanation from each of three practitioners whose names appeared in a circular advertisement respecting a private sanatorium.

Consideration was given to Press references to a criminal charge arising out of the death of a woman after an operation alleged to have been performed by Dr. A. McA. Lanphier. Reports were received that this practitioner had been implicated in previous similar cases, and it was decided to refer the matter to the Crown Solicitor for advice as to whether the Board would be justified in holding an inquiry into the question of erasing or removing Dr. Lanphier's name from the medical register.

A SPECIAL MEETING of the Medical Board of Victoria was held on December 23, 1936.

The following persons were registered as legally qualified medical practitioners:

M.B., B.S. (Adelaide), 1936: Horace Townsend Hayes.
M.B., B.S. (Melbourne), 1936: John MacDonald Agar, Thomas John Beresford, Louis Lancelot Oxley Bevan, James Grayton Brown, Hamilton Lister Catchlove, Clifford Kelvin Churches, James Clough, Frederick William Connaughton, Thomas Pilkington Crankshaw, William Frederick Hamilton Crick, William George Cuscaden, Ernest Barclay Drevermann, Colin Conway Dye, Kenneth John Eager, Allan Aveling Ferris, Richard Dyason Ferris, John Kelvin Gardner, Marjorie Gilchrist, Horace Wellesley Hannah, Desmond Thomas Matthew Hayes, John Douglas Hicks, James Francis Hughes, Trevor William Jenkins,

Haddon Harker Johnson, Julian Frederick William Kaw, Lindon Archdale Langley, Philip Lewis, Norman Pratt Long, Frederick Charles Macaulay, Margaret Eleanor Mackay, Francis Joseph McCoy, Trevor Alexander McLean, Lindsay John Michael, Archibald McLaren Millar, Marjorie Mirams, Francis John Moss, Lorimer William Nott, Yrsa Elizabeth Osborne, Winton Henry Phillips, Stanley Francis Reid, Vernon Glyde Renowden, Michael Hugh Mulvihill Ryan, Ivan Abraham Schalit, Theodore Schlicht, Adrian Givan Serong, David Norman Livingstone Seward, Sidney Arnold Sewell, Hubert Reynolds Smith, Margaret Neil Smith, Winston Sullivan Smith, William Emmet Spring, Frank Douglas Stephens, Godfrey Howitt Thompson, Frederick Gordon Trevor Turner, Karl Neilson Uhd, John Patrick Francis Whelan, Thomas Edward Wilson, Philip Scott Woodruff, Kenneth Gordon Patrick Worner and Theodore Jack Constance.

TASMANIA.

THE undermentioned have been registered, pursuant to the provisions of the *Medical Act*, 1918, of Tasmania, as duly qualified medical practitioners:

Beckett, Charles Edward Halley, M.B., 1936 (Univ. Sydney), Waratah.
Goldenberg, Meyer, M.B., B.S., 1934 (Univ. Melbourne), Latrobe.
Gumley, Albert John, M.B., B.S., 1934 (Univ. Melbourne), Burnie.

NEW SOUTH WALES.

THE undermentioned have been registered, pursuant to the provisions of the *Medical Act*, 1912 and 1915, of New South Wales, as duly qualified medical practitioners:

Ham, Harold John, M.B., B.S., 1926 (Univ. Melbourne), 135, Macquarie Street, Sydney.
Marshall, Crawford Clelland, M.B. et Ch.B., 1908 (Univ. Melbourne), M.R.C.S., 1912 (England), L.R.C.P., 1912 (London), Hawthorn, Victoria.

QUEENSLAND.

THE undermentioned have been registered, pursuant to the provisions of *The Medical Acts*, 1925 to 1935, of Queensland, as duly qualified medical practitioners:

Dunn, Ross MacPherson, M.B., B.S., 1935 (Univ. Sydney), Bundaberg.
Green, Ronald Aylmer, M.B., 1933 (Univ. Sydney), Boonah.
Murphy, Eileen Mary, M.B., B.S., 1929 (Univ. Melbourne), Westwood.
Pearse, Thomas Sargent, L.R.C.S., L.R.C.P., 1904 (Edinburgh), L.F.P. & S., 1904 (Glasgow), Chillagoe.
Scott-Young, Margery, M.B., B.S., 1936 (Univ. Sydney), Toowoomba.

Obituary.

ROBERT WELLESLEY LETHBRIDGE.

WE regret to announce the death of Dr. Robert Wellesley Lethbridge, which occurred on December 8, 1936, at Caulfield, Victoria.

GODFREY ERNEST GARDE.

WE regret to announce the death of Dr. Godfrey Ernest Garde, which occurred on December 25, 1936, at Middle Brighton, Victoria.

ARTHUR MACHEN HILL.

We regret to announce the death of Dr. Arthur Machen Hill, which occurred on December 25, 1936, at Malvern, Victoria.

PROFESSOR D. A. WELSH PRIZE FUND.

ADDITIONAL subscriptions have been received for the Professor D. A. Welsh Prize Fund as follows:

£5 5s.: Dr. R. Graham Brown, Sir John McKelvey.
£3 3s.: Dr. P. E. Walton Smith.
£2 2s.: Dr. W. M. A. Fletcher, Dr. P. L. Hipsley.
£1 1s.: Dr. A. J. Gibson, Dr. J. L. Amphlett, Dr. A. C. Thomas.

Books Received.

BAILEY'S TEXT-BOOK OF HISTOLOGY (ELWYN AND STRONG), revised and rewritten by P. E. Smith, Ph.D., et alii; Ninth Edition; 1936. London: Baillière, Tindall and Cox. Royal 8vo, pp. 789, with 506 illustrations. Price: 27s. net.

Diary for the Month.

JAN. 21.—Queensland Branch, B.M.A.: Clinical Meeting.
JAN. 22.—Queensland Branch, B.M.A.: Council.
JAN. 25.—Victorian Branch, B.M.A.: Council.
JAN. 27.—Federal Council, B.M.A.: Half-Yearly Meeting (Melbourne).

Medical Appointments.

Dr. A. G. Wise has been appointed Government Medical Officer at Moss Vale, New South Wales.

Dr. J. B. W. Meredith has been appointed Government Medical Officer at Weston, Kurri Kurri and Abermain, New South Wales.

Dr. A. E. Lincoln has been appointed Certifying Medical Practitioner at Woodend, Victoria, under the provisions of the *Workers' Compensation Act*, 1928, of Victoria.

Dr. A. Fryberg has been appointed Health Officer, Department of Public Health, Brisbane, pursuant to the provisions of *The Health Acts*, 1900 to 1934, and *The Public Service Acts*, 1922 to 1924, of Queensland.

Medical Appointments Vacant, etc.

For announcements of medical appointments vacant, assistants, locum tenentes sought, etc., see "Advertiser", pages xviii, xix, xx.

FREMANTLE HOSPITAL, FREMANTLE, WESTERN AUSTRALIA: Resident Junior Medical Officer.

MOUNT BISCHOFF PROVIDENT HOSPITAL, WARATAH, TASMANIA: Medical Officer.

SAINT VINCENT'S HOSPITAL, SYDNEY, NEW SOUTH WALES: Honorary Temporary Assistant Physician.

THE HORNSBY AND DISTRICT HOSPITAL, HORNSBY, NEW SOUTH WALES: Resident Medical Officer.

THE PUBLIC SERVICE BOARD, NEW SOUTH WALES: Junior Medical Officer.

THE QUEEN'S (MATERNITY) HOME, ROSE PARK, SOUTH AUSTRALIA: Resident House Surgeon.

THE UNIVERSITY OF MELBOURNE, VICTORIA: Part-Time Lectureship in Pathology, Beaney Scholarship in Pathology.

Medical Appointments: Important Notice.

MEDICAL PRACTITIONERS are requested not to apply for any appointment referred to in the following table without having first communicated with the Honorary Secretary of the Branch named in the first column, or with the Medical Secretary of the British Medical Association, Tavistock Square, London, W.C.I.

BRANCHES.	APPOINTMENTS.
NEW SOUTH WALES: Honorary Secretary, 135, Macquarie Street, Sydney.	Australian Natives' Association. Ashfield and District United Friendly Societies' Dispensary. Balmain United Friendly Societies' Dispensary. Friendly Society Lodges at Casino, Leichhardt and Petersham. United Friendly Societies' Dispensary. Manchester Unity Medical and Dispensing Institute, Oxford Street, Sydney. North Sydney Friendly Societies' Dispensary Limited. People's Prudential Assurance Company Limited. Phoenix Mutual Provident Society.
VICTORIAN: Honorary Secretary, Medical Society Hall, East Melbourne.	All Institutes or Medical Dispensaries. Australian Prudential Association, Proprietary, Limited. Mutual National Provident Club. National Provident Association. Hospital or other appointments outside Victoria.
QUEENSLAND: Honorary Secretary, B.M.A. Building, Adelaide Street, Brisbane.	Brisbane Associate Friendly Societies' Medical Institute. Proserpine District Hospital. Members accepting LODGE appointments and those desiring to accept appointments to any COUNTRY Hospital are advised, in their own interests, to submit a copy of their Agreement to the Council before signing.
SOUTH AUSTRALIAN: Honorary Secretary, 178, North Terrace, Adelaide.	All Lodge appointments in South Australia. All Contract Practice Appointments in South Australia.
WESTERN AUSTRALIAN: Honorary Secretary, 205, Saint George's Terrace, Perth.	All Contract Practice Appointments in Western Australia.

Editorial Notices.

MANUSCRIPTS forwarded to the office of this Journal cannot under any circumstances be returned. Original articles forwarded for publication are understood to be offered to THE MEDICAL JOURNAL OF AUSTRALIA alone, unless the contrary be stated.

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Members and subscribers are requested to notify the Manager, THE MEDICAL JOURNAL OF AUSTRALIA, Seamer Street, Glebe, New South Wales, without delay, of any irregularity in the delivery of this journal. The management cannot accept any responsibility or recognize any claim arising out of non-receipt of journals unless such a notification is received within one month.

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